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ABSTRACT

The establishment and development of the University of Tromso in Northern Norway are discussed. This case study is one of 10 undertaken as part of a project conducted by the Institute of Education of the European Cultural Foundation to compare higher education reforms that were introduced during the 1960s or early 1970s in various European countries. After reviewing the reform, the University of Tromso is described as it is today, and conditions that influenced its development are examined. Goals for the university that were formulated by the Ministry of Education and Parliament, and those formulated by the university, are described. Aspects of the educational and occupational situation in Norway from the late 1950s included a growth in student enrollment at universities, insufficient facilities, and a shortage of academically qualified people. The university as it exists today is considered in relation to: expenditures, staff, student numbers, geographic background of students, the graduation rate, the system of governance, areas of study, innovations in examination procedures and teaching, interdisciplinarity in teaching and research, and the regional relevance of the university (e.g., subjects and research relevant to the region). General trends in higher education in the 1970s and economic influences affecting the University of Tromso are addressed. Student recruitment has been affected by developments within secondary education in Northern Norway, a national tendency of declining enrollments, and influences related to patterns of study. Appended materials include information on: committees appointed by the university's Interim Council, and the Norwegian university degree system. (SW)

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and Higher Education

Karen Nossum Bie

Creating a New University

The Establishment and Development of the University of Tromsø

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The Norwegian Research Council
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PREFACE

The 1960's were a period of educational change in many countries. A quantitative expansion within higher education became associated with institutional changes and a transformation of educational policy. In Norway the growing political emphasis on regional development was instrumental in creating a new university in Tromsø in Northern Norway, and the regional colleges. Both signified distinct departures from the traditional university and college structure.

The present study gives an account of the University of Tromsø, emphasizing its establishment, and the developments that have taken place since it was formally declared open for enrollment in 1972. The regional colleges are described in a separate report from our Institute (Kyvik, S. 1981: The Norwegian Regional Colleges).

Both studies are part of an international project conducted by Dr. Ladislav Cerych at the Institute of Education, of the European Cultural Foundation, in Paris. The purpose of this international prosject is to compare reforms within higher education introduced during the 1960's or early 1970's in various European countries.

The Institute for Studies in Research and Higher Education would like to thank the following persons for valuable comments on earlier drafts of the Tromsø study:

Ladislav Cerych; Paul Sabatier of the University of California at Davis; Svein Kyvik, Ole Johan Sandvand, and Roy Johansen, the Institute for Studies in Research and Higher Education; Vebjørn Fagernes, Trond Thuen, and Terje Edvardsen, the University of Tromsø; Arve Kjelberg and Arne Moi, the Ministry of Education, Kåre Rommetveit at Bergen Municipal Authority, and Peter F. Hjort, the Unit for Health Services Research, the Norwegian Research Council for Science and the Humanities.

The essay is written by Karen Nossum Bie, who is a member of the Institute. The conclusions drawn are the responsibility of the author.

Oslo, April 1981

Sigmund Vangsnes

CONTENTS

Page

LIST OF TABLES.. 7

LIST OF FIGURES... 9

INTRODUCTION by Ladislav Cerych...................................... 11

I THE PLANNING AND FOUNDING OF THE UNIVERSITY

1.1. Introduction.. 23
1.2. General background.. 24
1.3. Successive stages in the preparation of the reform....... 29
1.4. The case of medicine.. 39
1.5. Local activities in Tromsø..................................... 44
1.6. The period of the Interim Council.......................... 45
    1.6.1. The appointment of the Interim Council............ 45
    1.6.2. The work of the Interim Council..................... 47
    1.6.3. The Goal-Formulating Committee...................... 53
1.7. The adoption of the University statutes, controversial issues... 57

II THE GOALS OF THE REFORM

2.1. Goals formulated prior to the parliamentary decision in 1968.. 61
2.2. Goals formulated in the interim period.................... 64
2.3. Conclusions.. 67

III THE UNIVERSITY OF TODAY

3.1. The location of the University.............................. 69
3.2. Expenditure.. 69
3.3. Staff.. 72
3.4. Students.. 75
    3.4.1. Student numbers.. 75
    3.4.2. Geographic background of students................ 77
    3.4.3. Students who have graduated......................... 79
3.5. The system of government.................................... 81
3.6. Areas of study.. 84
3.7. Innovation in educational methods........................ 89
    3.7.1. Interdisciplinarity in teaching and research...... 89
    3.7.2. Innovation in examination procedures and teaching. 95
3.8. The regional relevance of the University................ 96
    3.8.1. Recruitment of students..................................... 96
    3.8.2. Subjects.. 96
    3.8.3. Continuing education.. 99

Page

3.8.4. Research 100
3.8.5. The University as supplier of academically qualified personnel 101
3.8.6. Growth of the population in the region 103
3.8.7. Impact on the local community 104

3.9. Conclusion 106

IV THE PROCESS OF IMPLEMENTATION

4.1. Introduction 113
4.2. General trends in higher education in the 1970's 113
4.3. Economic aspects in relation to the University of Tromsø 116
4.4. The process of choosing a site and constructing the University 118

4.4.1. Introduction 118
4.4.2. The choice of site 118
4.4.3. The University commissions work from local building contractors 121

4.5. Recruitment of staff 122
4.6. Recruitment of students 125

4.6.1. Developments within secondary education in Northern Norway 126
4.6.2. National tendency of a decrease in student numbers 129
4.6.3. Aspects related to the pattern of study 132

4.7. The development of the system of government 135
4.8. The process of implementing new educational methods 137

4.8.1. Interdisciplinarity versus disciplinarity in teaching and research 137
4.8.2. Examination procedures and teaching methods 145

4.9. Developments affecting the regional relevance of the University 147

4.9.1. Autonomy versus influence from the region 147
4.9.2. Subjects relevant to the region 150
4.9.3. Research relevant to the region 155

V SUMMARY AND CONCLUSIONS 157

BIBLIOGRAPHY 163

APPENDIX I: Committees Appointed by the Interim Council
APPENDIX II: Map of Norway Showing County Boundaries
APPENDIX III: The Norwegian University Degree System

TABLES

Page

Table 1 Main events in the reform to establish a university in Tromsø 38

Table 2 Running costs per student at the Universities of Tromsø, Oslo, Bergen, and Trondheim in different fields of study. 1978 71

Table 3 Student/teacher ratios at the Universities of Tromsø, Oslo, Bergen, and Trondheim in different fields of study. 1979 73

Table 4 Number of students at the University of Tromsø 1972-1980 75

Table 5 Students divided according to field of study. Autumn term 1980 76

Table 6 Percentage of students at the University of Tromsø from the three Northern counties 78

Table 7 Geographic recruitment to the Universities of Oslo and Bergen. Autumn 1980 79

Table 8 The number of students who have graduated from the University of Tromsø with a higher degree 80

Table 9 Population in Nordland, Troms, and Finnmark 1960-79 103

Table 10 The number of students enrolled at universities and similar institutions 1960-1980 114

Table 11 New scientific positions allocated to the University of Tromsø and the university sector generally, 1970-1980 116

Table 12 Pupils with a university entrance examination as percentage of the population aged 19, 1960-1976. By county 126

Table 13 New places in secondary education allocated to courses preparing for university entrance. 1965-1977. Percentages of all new places allocated 128

Page

Table 14 Pupils in secondary education in Nordland, Troms, and Finnmark. Distribution on courses preparing for university entrance and vocational courses. 1965-1977. Percentages.......... 129

Table 15 Number of students at universities and similar institutions. Autumn term 1972-80.......... 130

Table 16 Number of students in various subjects at the University of Tromsø 1975-80. Autumn term.......... 131

Table 17 Students matriculating at the University of Tromsø 1972-80.......... 132

FIGURES

Page

Figure 1 Map of Norway showing the main cities and the counties constituting Northern Norway................. 27

Figure 2 The location of the University of Tromsø 1979......... 70

Figure 3 Structure of the course in social sciences at the University of Tromsø leading to a higher or lower degree.. 93

Figure 4 New scientific positions allocated to Norwegian universities and regional colleges 1970-80............ 115

INTRODUCTION BY LADISLAV CERYCH

This case-study is one of a group of ten undertaken in the course of a wide-ranging international project conducted by the Institute of Education of the European Cultural Foundation in Paris. The studies focus on the following topics:

- the creation and development of the *Instituts universitaires de technologie* (IUTs, or "University Institutes of Technology") *in France;*

- proposals for and development of the *Gesamthochschule* (Comprehensive University) *in the Federal Republic of Germany;*

- the creation and development of the University of *Cosenza (Calabria) in Italy;*

- the development of a *co-ordinated system of short and long-term technical higher education in Hungary;*

- the introduction of a *"Preferential Point System"* in favour of admission to higher education of students from workers' and peasants' families *in Poland;*

- the introduction of the *25/5 admission rule* to higher education *in Sweden;*

- the creation and development of the *University of Umeå in Sweden;*

- the creation and development of *Regional Colleges in Norway;*

- the creation and development of the *University of Tromsø in Norway;*

- the creation and development of the *Open University in the United Kingdom.*

All these studies represent special cases of changes (reforms or policies) deliberately introduced into the higher education systems of the countries in question in the course of the 1960's or early 1970's. They were part of a widespread attempt to adapt higher education to emerging new requirements, to its extended goals and functions, and also to the consequences of what was, at the time, a period of continuing expansion. Different authors had different names for this movement; probably the best known designation is the one coined by Martin TROW: a 'transition from elite to mass higher education'.

Implicitly, therefore, the present study, as well as the other nine, deal with some aspect of this transition, although their common denominator and main focus of interest are different. They all attempt to answer one fundamental question which is also the key question of the project as a whole: how is one to explain the difference between the original aims and final outcome of a higher educational reform?

This question was motivated by a relatively simple observation. Little more than a causal survey is required to appreciate that very few of the numerous higher educational reforms of the 1960's and early 1970's have achieved their original objectives fully. In most cases we can speak of partial achievements only, sometimes even of a dissolution of the initial aims, sometimes of their distortion or substitution by others. The phenomenon is well known in the field of organisational theory and, more recently, of policy implementation analysis, but it has very rarely been applied in practice to higher education policies. It is worth enquiring as to whether a more careful analysis of these recent reforms provides a better understanding of what really happens.

Of course, every participant in a reform process is ready with an explanation, often very simple, at least as far as his or her own reform is concerned: universities resist change, professors are conservative, bureaucracy has killed the innovation, there were not enough resources, and so on. Yet a closer look at any of the reforms will reveal that things are much more complicated and that, in fact, the terms 'success' and 'failure' of a policy must be used with utmost caution. Success or failure with regard to which and whose criteria? Achievement or non-achievement in respect to conditions and requirements prevailing at the outset or at a later stage? It is this kind of reflection which has inspired the attempt at a closer study.

More specifically, three questions form the core of a common outline for all the case-studies:

1. What were the original goals of the reform, new institution or policy and how did they take shape?

2. What are its present manifestations and results, especially with respect to the initial objectives and to other aims, formal and informal, which may have emerged later?

3. What were the different factors which influenced these results, whether negative or positive: how did they interrelate, and what were the missing ingredients?

In short, further information was required about objectives, results and the factors explaining them.

Policy evaluation was little more than an indirect aim of the project, which has sought essentially to improve understanding of the process whereby certain objectives were transformed into realities and, hopefully, to unearth findings relevant to future policies. As suggested in its title "Implementation of higher education reforms", the project as a whole (though not necessarily its different case-studies) was, to a considerable extent, based conceptually on policy implementation literature, primarily of American origin.1) In this connection it might be said that implementation analysis has been used to elucidate the problems of transition from elite to mass higher education and, possibly, the validity of the whole concept, especially in the new climate of diminished growth.

At the same time, it is hoped that analysis of the implementation of new higher education policies will increase understanding of policy implementation in general, in such a way that the project will make a contribution to the wider more theoretical framework of contemporary political (or policy) sciences. Whether it succeeds is a question which future readers of the different case-studies and of the forthcoming general report will eventually have to judge for themselves.

The aim of the general report itself, to be publised in a separate volume, is to provide a comparative analysis of the main findings of this and the nine other case-studies. It seemed particularly important, in this comparative perspective, to determine how different factors in the implementation process - such as the support or resistance of groups concerned by the reform, the clarity or ambiguity of policy goals, and changes in social economic conditions - operate in different national contexts and in different combinations or interrelations with each other. Clearly, what succeeds or fails in one national and historical context does not produce the same results in another, so that probably only a comparative approach is likely to produce findings which have a broader validity, going beyond purely national or local circumstances.

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1) European literature on the subject is scarce, and it was hoped that the project might make a significant contribution to work in this field.

However, all ten case-studies are self-contained and can be read independently of each other and of the general report. As to this one, its findings are, we believe, highly relevant not only for the project as a whole but also for a better understanding of an important reform effort within Norwegian higher education and, hopefully, of the development of European higher education in general.

Such merits as can be attached to the study unquestionably reflect of course the ability and insight of its author, to whom we wish to express here our sincere thanks for the patience with which she received our comments on previous drafts, taking into account the general outline and orientation of the necessary research, as well as a number of specific questions to which we sought an answer for the sake of our own international and comparative perspective. We should further like to express our gratitude to all those who made this study possible and, in particular, to the Institute for Studies in Research and Higher Education in Oslo, which incorporated the study in its own research programme and generously provided all the necessary personnel and facilities. Wholehearted thanks are also due to the members and authorities of the University and town of Tromsø, as well as to all others involved in the University's creation and management, who supplied so much vital information, willingly answering the questions put to them. Finally, we are indebted to those officials of the Ministry of Education particularly concerned with the development of the University for their helpfulness at all stages of this enquiry, and without which it would have been far harder to complete.

* * * * *

Reverting to the overall international perspective of the project for which this study was undertaken, we wish now to add a few remarks on what, as outside observers, we have learned from the process of building up the University of Tromsø or, more exactly, on how the factors and developments identified in the present case-study compare with those revealed in the others. Since a systematic comparison appears in a separate volume, we wish to limit ourselves especially to three questions:

a) which factors in this process have a very similar impact elsewhere?

b) which have an apparently somewhat different effect?

c) what major lessons can be learnt from the case of the University of Tromsø with a view to establishing a more general outlook on implementation of higher education reforms?

Tromsø shares most of its original goals with a number of new universities created in Europe in the course of the 1960's and early 1970's. Almost all were created initially to cope with rapidly increasing student numbers, while several aimed simultaneously to serve more specifically the needs of regions which were at a relative disadvantage, either as a result of demographic, social, geographical, economic or broadly cultural considerations or simply because they had previously been deprived of higher education institutions. The universities of Cosenza in Southern Italy, of Umeå and Luleå in Northern Sweden, of Trier and Kassel in West Germany or of Twente in the Netherlands are just a few examples of such new establishments.

The meaning of "an establishment which serves the needs of a region" can of course range from simply being present in it to developing its institutional activities to respond directly, through traditional and non-traditional means, to particularly urgent local problems; this may imply contributions to the improvement of health services, agricultural production, and the education of the local population (not necessarily at university level alone), as well as attempts to encourage people to come to and remain in the region in question. There is no doubt that several of the universities mentioned above saw themselves as destined to fulfil this kind of role.

Moreover, Tromsø aimed in particular at developing interdisciplinary teaching and research and new examination procedures as well as a new type of (internal) organisational and decision making structure. The numerous examples of similar aspirations elsewhere in Europe include the Universities of Bremen in Germany, Vincennes (Paris VIII) in France and Roskilde in Denmark.

As will be noticed from the two lists of examples, they do not overlap. Tromsø, on the contrary, aimed at pursuing *all* the objectives mentioned so far. In this sense, it is unique (as it is also in its geographic location well beyond the Arctic circle); its objectives, therefore, were also probably more difficult to achieve than those anywhere else.

Experience shows that most new universities and new policies in general have multiple goals, but the range is rarely as wide as it was in the case of Tromsø. Experience also shows that in such a situation, certain aims will be far less fully realized than others, and possibly even discarded. An additional factor operating virtually everywhere, as it did in Tromsø, is the pressure for recognition by the national (and international) academic communities which are not usually working towards all the same specific goals of such new institutions so that, as a result, there is an unavoidable progressive adaptation to the values and rules of the national system. It is rather exceptional that despite this pressure, Tromsø could maintain at least some of its specific features, particularly with regard to its medical education, but also to a certain extent social studies.

On looking at other forces which influenced the development of the university, we came across a factor which, in terms of the achievement of original goals played a distinctly negative role in Tromsø, though it had a rather mixed impact in other cases. This factor consisted in both the world's altered socio-economic conditions and in the changed dynamic of national higher education, amounting to slower growth if not stagnation. Surprisingly enough, in several cases, the worsened conditions helped to achieve certain new policy goals. Thus, the Swedish 25/5 admission scheme got rather unexpected warm support from traditional universities because it compensated for declining enrolments among young students, allowing universities to maintain their budgetary allocations. Similarly, some of the new higher education institutions providing more vocationally-oriented education increased their attractiveness on account of the tight labour market situation.

In this respect, Tromsø probably constitutes a more "normal" case, possibly teaching us a useful lesson: the worsened economic situation (in terms of general budgetary cuts and of declining recruitment of academic staff in the country as a whole) has a negative effect on certain policy goals, such as interdisciplinary studies and the range of courses offered. It would be interesting to investigate more carefully which objectives fall into the two categories, as well as to know the category to which the goal of participation in regional affairs belongs.

An impact of another development which Tromsø clearly shares with many of the reforms of the late 1960's and early 1970's is the vanishing of "the spirit of May 1968", or, in other words, the decline of the student movement. The latter was certainly an important determining factor in the launching of the University and in the definition of its goals although the formal act of creation, the national parliament and government decision, was inspired simply by considerations concerning the need to provide additional student places and the contributions to the development of the far North of the country. We can find this twin motivation for a new higher education policy in several other cases including the German Gesamthochschule and some of the new Swedish universities. Whenever the first of these motivations weakened, the second became dominant leading again towards greater adaptation to more traditional academic values. In the few instances where this did not happen and the ideas of 1968 continued to prevail, the universities concerned had considerable difficulty maintaining their prestige: this was the case in Bremen in the Federal Republic of Germany and to a lesser extent in Kassel (one of the Gesamthochschulen, also in the Federal Republic), and Vincennes (Paris VIII) in France.

Tromsø's key problem, namely an insufficient number of students, making it almost impossible to offer them an adequate range of subjects and thereby diminishing the attractiveness of the university is not unique either, for it has also been faced by Luleå and Umeå in Northern Sweden. But because Luleå is essentially an engineering faculty, it does not need to establish a relatively wide subject range, while Umeå has by now more than 7,000 students which means that the problem is less acute. In other words, this factor is probably more important in Tromsø than anywhere else.

It is also obviously an external factor which the university cannot significantly influence. And although it can try to adapt to it, this is usually impossible without a certain explicit or implicit reformulation of goals. In this respect, the geographic location of Tromsø is particularly inconvenient because the pool of potential students is rather limited and (in the short run at least) cannot be compensated by migration from the South. Here, the decisive factor is probably a certain disassociation between the development of higher and secondary education. The latter was obviously too slow to keep pace with the former and thus became a major constraint in the expansion of the new University. Tromsø thereby makes it quite clear that a higher education reform may not be fully successful if appropriate measures are not successfully introduced at lower educational levels. A reform in Polish higher educational admissions procedure aimed at increasing the proportion of students from workers' and peasants' families failed partly for a similar reason: the pool of potential beneficiaries of the new scheme was virtually exhausted.

Often, the only thing which a university can do in such circumstances is to turn to another clientele, in particular mature students and people whose secondary education is incomplete. This is what the Swedish universities have done through the 25/5 Scheme, although a transition of this kind immediately raises the problem of academic standards and prestige.

Looking at the difficulties caused by worsened economic conditions from the narrower standpoint of financing, the picture is different.

Analysis of new higher education policies across Europe - and presumably also in the USA - shows that shortage of funds alone was seldom decisive in bringing to an end or blocking an important innovation. To some extent, I would argue, this has also been true of Tromsø. The actual investments for building up the University were two or three times higher (in constant prices) than those foreseen by the parliament when it approved its creation. Yet, they were forthcoming and one must assume also that the running costs have remained well above the Norwegian average. We can therefore consider Tromsø as a confirmation of the general rule, as well as an excellent illustration of the importance of another key factor, namely the existence of a strong local and national political will. The German *Gesamthochschule* as an organisational form for all German higher education collapsed partly because of a sudden absence of this will.

Our last comment conserns the question of "town and gown" relations.

The development of such relations generally proceeds according to the following pattern: initially, a more or less enthusiastic attitude of the town and of its population towards the new institution; secondly, a considerable cooling down of this enthusiasm, including marked friction if not open conflict; and in the third phase, either mutual indifference or a kind of reasonably good neighbourhood co-existence with limited co-operation and interpenetration. In Tromsø, the second phase probably implied quite extensive elements of conflict, but the third involves more than limited co-operation, and maybe something which could be called a happy marriage. Eventually, therefore, Tromsø was more successful than most of the other institutions in a similar position (although a further possible exception is Luleå in Sweden).

We can only hazard a guess as to some of the reasons for this final state of affairs. These certainly have very little to do with the formal involvement of town and regional representatives in the university's decision-making since, surprisingly for an establishment of this type, such involvement was non-existent for quite some time, thereby proving perhaps that formal representation does not in itself mean very much. On the other hand, the reasons may well include the fact that the University remained rather small, and that the conditions of the far North have been favourable to such a union: they are almost certainly also related to the University's services to the town, which are greatly appreciated; and they unquestionably have much to do with individual people, with the commitment of all those in the University who have continued to believe, despite unfavourable circumstances, in one of this institution's key aims, namely, service to the region.

Since this has to be provided while maintaining high academic standards, probably some price has had to be paid in terms of partially sacrificing other goals which the university originally set itself.

This, I believe is also the main lesson which outside observers can draw from the development of the University of Tromsø.

LADISLAV CERYCH
Director of the Institute of Education
the European Cultural Foundation

I THE PLANNING AND FOUNDING OF THE UNIVERSITY

1.1 INTRODUCTION[1]

This report contains a study of the establishment and development of the University of Tromsø in Northern Norway. The University was founded in 1968 and formally declared open for enrollment in 1972. Located at almost 70° North, Tromsø is the Northernmost university in the world, and the most recent university in Norway.[2]

It was founded at the time of the student unrest. The staff and students it attracted set out to create an institution that would be associated with innovation in administration and teaching methods, and thus different from the more traditional Norwegian institutions. The principal goal for the new University was, however, its regional relevance. It should primarily be a university for Northern Norway (see figure 1).

The University of Tromsø has now been in operation for eight years and an initial assessment is warranted. Has the University reached the goals of its founders? Has it lived up to expectations of educational innovation and a more representative system of government? Or has it slipped into the pattern of more traditional institutions? Have staff and students been attracted to the new University?

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[1] Kåre Rommetveit's dissertation "Framveksten av det medisinske fakultet ved Universitetet i Tromsø - en undersøkelse av beslutningsprosesser", the University of Bergen, 1971, has been of much help in preparing this chapter.

[2] The University of Trondheim established at the same time was not a new institution but an amalgamation of the University College of Advanced Technology and the College for Advanced Teachers Training, both institutions of long standing in Trondheim.

After reviewing the history of the reform an attempt will be made at answering these questions. The University will be described as it is today; conditions and circumstances that have influenced its development will be examined.

Thus the paper makes a fourfold distinction:

1) The decision process to establish a university in Tromsø;

2) the goals for the University as they were formulated by the Ministry of Education and Parliament, and those resulting from the goal-formulating process within the University itself;

3) the present state of the University; and

4) the factors which have influenced the implementation of the goals as they were originally formulated.

1.2 GENERAL BACKGROUND

Characteristic aspects of the educational and occupational situation in Norway from the late 1950's were a:

1) Considerable growth in student numbers at universities and similar institutions.

2) Insufficient facilities to accomodate the growing numbers and educate enough qualified personnel.

3) Shortage of academically qualified people.

An unforseen growth in numbers seeking higher education from the late 1950's was the prime reason for the shortage of educational facilities. At universities and similar institutions the student numbers tripled from about 10,000 in 1960 to about 30,000 in 1970. Increases in budgets and academic positions were also considerable in the period. In 1950 public grants to the Universities of Oslo and Bergen[1] totalled 13 million N.kr.; in 1970 it had reached 289 million. 4 new permanent scientific positions were established in 1950, 109 new ones in 1970 (Stjernø 1971, p. 1).

Despite considerable expansion from the late 1950's, the shortage of facilities was still acute in the technical and medical fields and business administration. At the same time predictions about the future demand for academics made it clear that public funds at that time would be insufficient for adequate university expansion. As a consequence many Norwegians sought and obtained their university education abroad; in 1955/56 their numbers constituted 30 per cent of the Norwegian student population. These factors lead the government in the mid 1960's to adopt a policy of more efficient use of existing facilities. As a result changes were made in course regulations and organization.

In the 1960's considerable financial investment in university expansion and a more efficient use of available resources predominate in university policies. The decision to found a new university in Tromsø denotes a break with these policies (Rommetveit 1971, pp. 3-4). A new university in Tromsø was estimated to provide places for 2,000-2,200 students by 1980. This would constitute a very small percentage of the total student population stipulated to reach 33,000 to 44,000 by the end of the 1970's. A new university in Tromsø would therefore not relieve the pressure on existing institutions to any extent.

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[1] The only universities in Norway at that time.

Political initiative to promote regional development was the main reason for establishing a university in Northern Norway.[1] The parallel decision to start regional colleges also reflects a growing awareness of regional needs (see Kyvik 1981). In 1960 the country as a whole had a population of about 3.5 million, 437,000 of which in Northern Norway (Statistical Yearbook 1979, table 7, p. 7). The Northern region covers about 2/5 of the total area of the country, two thirds of which is located above the Arctic Circle. For years large numbers of people had been leaving the region. Thus in the period 1951-60 the net emigration was as high as 21,000. It continued in the 1960's and even increased from 1965 resulting in 32,000 people leaving in the period 1961-70 (Central Bureau of Statistics 1975, table 13, pp. 42-43 and p. 49). In many sectors there was widespread shortage of academically qualified people. This shortage predominated more in the North than in other areas of the country.

With respect to education in Northern Norway it was widely recognized that facilities at all levels were inadequate. A scattered population and large distances within the region made the provision of schooling costly and difficult. For the same reasons access to education was especially difficult for people from country areas. This is reflected in the fact that the educational level among the population in the North generally was considerably below that of the rest of the country. Thus in 1960 only 6 per cent of the population aged 15 or more against 12 per cent for the country as a whole had general *and* some sort of special education above the compulsory primary education (Tromsø Committee 1965, table II_8, p. 9). For years both primary and secondary education had been acutely short of qualified teachers as had the health service with respect to medical doctors, dentists and other types of health personnel

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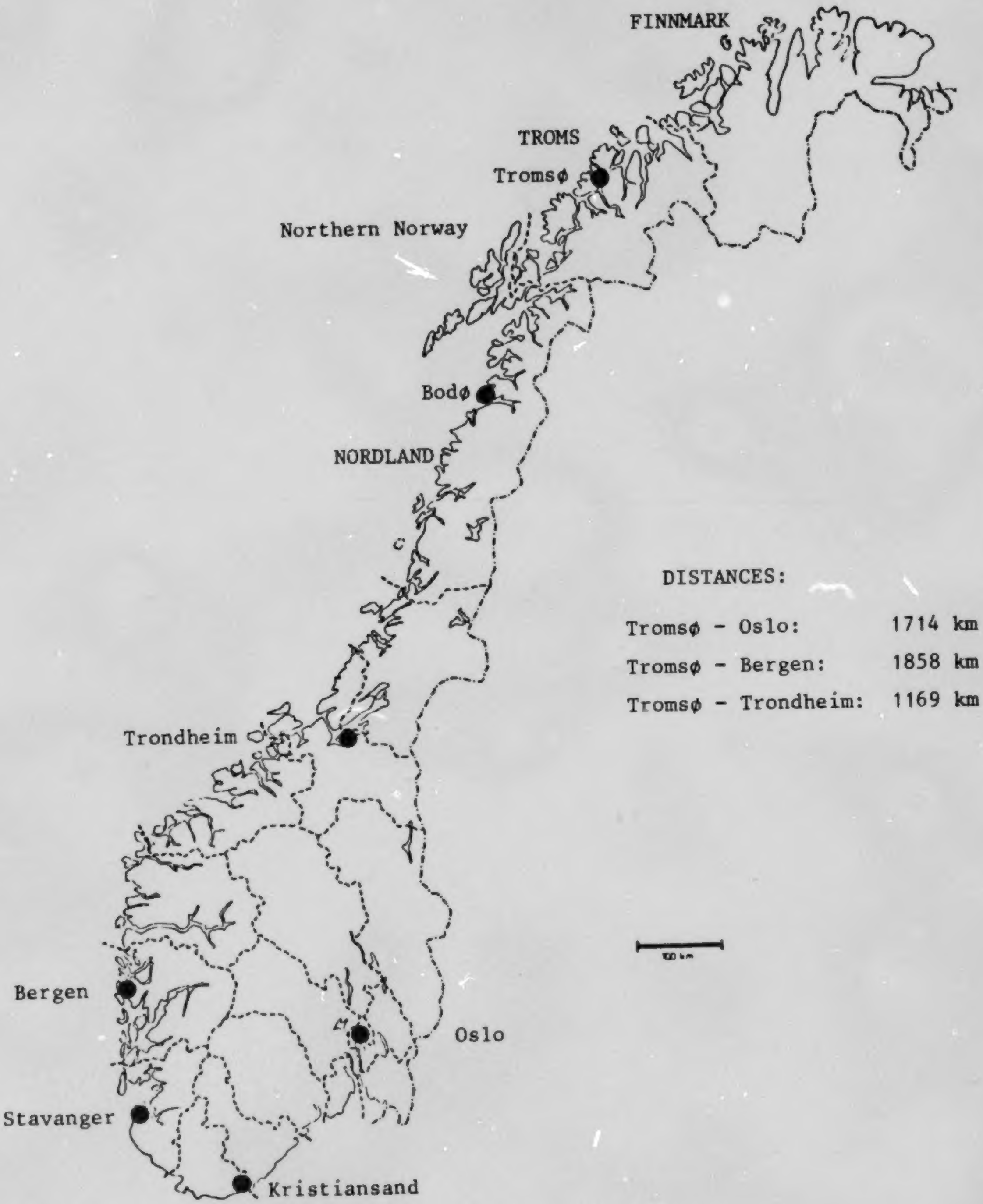
[1] Northern Norway includes the counties Nordland, Troms, and Finnmark, see figure 1.


FINNMARK
TROMS
Tromsø
Northern Norway
Bodø
NORDLAND
Trondheim
Bergen
Oslo
Stavanger
Kristiansand
100 km

DISTANCES:

Tromsø - Oslo:	1714 km
Tromsø - Bergen:	1858 km
Tromsø - Trondheim:	1169 km

Figure 1 Map of Norway showing the Main Cities and the counties constituting Northern Norway.

(see e.g. the Cultural Committee for Northern Norway 1966, pp. 6-7). For the schools this meant that many positions were vacant or held by people without the prescribed qualifications. In the health service several districts were without general practitioners and hospitals without adequate personnel. In 1961 there were 7 medical doctors per 10,000 inhabitants in Northern Norway against a national average of 11 (Ministry of Education 1967B, p. 36). The people occupying positions as teachers or doctors were frequently from the South and had gone North on a temporary basis with no intention of staying there permanently. This caused great instability and considerable disadvantages for the general public.

Because of structural changes taking place in the industry in the region, the need for formal education was growing. Between 1950 and 1960 large numbers of people had been leaving traditional and important economic sectors such as agriculture and fishing, constituting a net decrease of 20 per cent in the 10 year period, to enter sectors such as industry, trade, transport, and the administration, which in turn had been growing (Madslien 1965, table 10, p. 20). People were thus leaving the sectors where requirements for formal schooling frequently did not exist, to seek employment in sectors where some form of education was necessary.

With respect to higher education Northern Norway was far removed from the three important centres of Oslo, Bergen, and Trondheim (see figure 1). For students from the North a course of study in one of these cities involved considerable distances to travel and extra expenses. The number of students from the North had always been small compared to the size of the population in the region. Thus there were 4,5 students per 10,000 inhabitants in the Northern region matriculating at universities and similar institutions in 1960. For the whole country the comparable number was 7,6 (Madslien 1965, table 75, p. 146).

Although a university in Tromsø was not seen as a solution to all problems in the area, it was certainly considered to be important in improving the conditions and aid further development of the region. The formal decision to found a university in Tromsø was a political one passed by Parliament in 1968. However, the idea of establishing a university in Northern Norway was an old one dating back as far as just after the First World War.1)

1.3 SUCCESSIVE STAGES IN THE PREPARATION OF THE REFORM

The goals for the University of Tromsø got a twofold expression, i.e.

a) as stated in parliamentary documents;

b) as formulated during the period of the temporary executive board for the University.

The parliamentary documents deal with aspects such as student numbers, budget, areas of study. Three documents are of particular relevance, i.e. the proposals of the Tromsø Committee (1965), the proposition from the Ministry of Church and Education (St.prp. nr. 142, 1966-67), and the recommendations from the permanent Parliamentary Committee on Church and Education2) (Innst. S. nr. 123, 1967-68). The debate in Parliament in 1968 is also considered.

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1) In 1918 a wholesale dealer in Mo i Rana put forward the idea of a university in the North. He also set up a fund for this purpose.

2) Hereafter called Ministry of Education and permanent Parliamentary Committee on Education.

During the period of the temporary executive board appointed by royal decree in 1969, goals for the internal structure of the University were formulated on matters such as administration, organization of subjects, and research policy. *These together with goals expressed in the parliamentary documents are considered to represent the formal goals of the new University.*

In Tromsø there were no people or organizations working actively to get a university until the late 1950's. Reconstruction after the War, the development of the commercial life and problems of transport and communication were of prime importance. Within the city's scientific institutions, the Tromsø Museum, the Auroral Observatory, and the Central Hospital, people were more preoccupied with internal problems than with the utopian idea of getting a new university. A university was not then seen as a solution to their problems.

In government circles the idea of a university in Northern Norway had made little or no impact. Plans for developments in higher education in Tromsø seem to have been loose and centered around thoughts of further expansion of the existing scientific institutions in order to meet some of the need for higher education in the region (Rommetveit 1971, pp. 76-78).

The idea of establishing a university in Tromsø was revived in 1962 by a white paper submitted by the Ministry of Education. From that time the reform went through the usual preliminary stages before the formal decision to found the University was taken by Parliament in 1968. Table 1 shows the main events in chronological order. The white paper was based on recommendations given by a special committee (the Kleppe Committee) set up in January 1960 to consider future expansion in universities and similar institutions. The Committee stressed education as an important factor in the national production process. For the first time education was explicitly seen in an economic context. The Committee saw rational planning of education as a way of minimizing the problems created by the lack of educational facilities. A further expansion of *existing* universities and similar institutions in Oslo, Bergen, and Trondheim was considered the only economic solution (Kleppe Committee 1961). Within such a framework a new university in TromsØ would not solve the problem of providing enough university places. Furthermore, the Committee did not consider a proposal about a university in TromsØ to be part of its mandate.

The Ministry of Education took the matter of TromsØ much further when dealing with the Kleppe Committee's proposals. A new committee would be formed to investigate the possibilities of establishing a university in TromsØ. It was pointed out that the North, i.e. TromsØ, as a result of "a natural development" should have its own university. TromsØ was the capital city of Northern Norway. The Auroral Observatory and the TromsØ Museum, being well-established institutions, could provide a scientific basis for the teaching of several subjects such as the pure sciences and the history and culture of the Sami people.1) Expansion of the Central Hospital could also facilitate the incorporation of clinical medicine (Ministry of Education 1962, p. 24).

The appointment of the TromsØ Committee2) in 1963 constituted the next step in the preparation of the reform. The Committee counted eight members, the majority of whom was known to be in favour of a university in TromsØ (Rommetveit 1971, p. 94). It was given the mandate to estimate:

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1) Indigenous people of Northern Norway called "Lapps" in older terminology.

2) The head of the Committee was Johan T. Ruud, the then principal of the University of Oslo.

a) the need for university education in Tromsø;

b) subjects which could suitably be taught; and

c) the needs, specific to Northern Norway, for research and higher education.

It is worth noting that the Tromsø Committee was not given a mandate specifically to investigate the need for a *university*, but for education at *university level*.

The Committee offered its recommendations on January 5th, 1965 and concluded that a *university* should be established. This was based on consideration of the future need for university places, and an investigation of existing institutions which included: the Tromsø Museum, the Meteorological Bureau for Northern Norway, the Auroral Observatory, Tromsø Central Hospital, the Bacteriological Laboratory, Åsgård Psychiatric Hospital, the Sanatorium, Holt Experimental Farm, Tromsø Teachers Training College. Like the other universities this would be a public institution, founded by law and built and operated by public funds. Five reasons were put forward for proposing a new university:

1) The importance of a university in Tromsø to alleviate the shortage of academically qualified people, predominating more in the North than in other areas of Norway.

2) The desirability of providing easier access to university education for young people in Northern Norway.

3) The importance of a university for the social and economic development of the North.

4) The necessity of providing more university places in addition to those planned for the Universities of Oslo, Bergen and Trondheim.

5) Important research which it would be natural for a university in Tromsø to undertake (Tromsø Committee 1965, p. 14).

Only the fourth point here is in line with the main objective of the Kleppe Committee, i.e. the need to provide sufficient university places. Regional considerations predominated in the Committee. Above all it saw the new institution as *a university that would recruit local youth who in turn would remain in the region.* Thus the shortage of academically qualified people would eventually be alleviated. This line of reasoning was very much based on the results of an investigation of medical doctors carried out by Torstein I. Bertelsen, professor of medicine at the University of Bergen and also a member of the Tromsø Committee. He was later to play an active and important role in getting the medical faculty to Tromsø. Bertelsen's research showed that medical doctors had a tendency to return to the region where they were born or remain where they had studied, to practise as doctors (Bertelsen 1963, 1966). Consequently a decentralization of medical education was the most suitable way of securing a reasonable distribution of medical doctors in the country (Bertelsen 1963, p. 869). The Tromsø Committee considered Bertelsen's findings to apply also to other types of university graduates.

It should be kept in mind that teachers training colleges and technical colleges were the only institutions in Northern Norway giving some higher education. The small percentages, relatively speaking, of young people in secondary education preparing for the university entrance examination represented a problem for the recruitment of local students to the new university. In 1962/63 only 6 per cent of the age group in

Finnmark against 19 per cent for the country as a whole were preparing for the university entrance examination (the highest percentage had Oslo with 37) (Tromsø Committee 1965, table II,10, p. 10). An increase in the number of secondary schools offering the university entrance examination was important in itself and a prerequisite for adequate recruitment to a new university. A university in Tromsø was thought to stimulate such expansion.

With respect to fields of study the Committee argued strongly in favour of medicine which should include both the preclinical and clinical part. Dentistry, subjects within the arts, social sciences, mathematics, and the natural sciences ought to be part of the new university's curriculum. The Committee recognized the need for higher education in subjects related to the fishing industry. In anticipation of a report from the Ministry of Fisheries no proposal for such subjects was made.

The Committee was mainly concerned with the first stage in the university's development, i.e. till 1980. By 1980 the new university was estimated to accomodate 3,000 students and employ a scientific staff of 450.

The Ministry of Education discussed these proposals further in Bill no. 142 (i.e. St.prp. nr. 142, 1966-67) submitted to Parliament in 1967. The Ministry supported the Tromsø Committee's view of the university as an important factor in the social and economic development of Northern Norway. The bill and the subsequent recommendations from the permanent Parliamentary Committee on Education followed to a great extent the proposals of the Tromsø Committee. However, they both diverged from these proposals with respect to the rate of development and some of the subjects to be taught.

The Ministry proposed a slower rate of development than envisaged by the Tromsø Committee. Thus were 2,000 - 2,200 students by 1980 (the first stage of development) considered a more realistic number. The Tromsø Committee had included Bodø in the natural recruitment area for the university, while the Ministry considered students from that area to be more inclined to go to Trondheim, partly because of better means of communication (Bill no. 142, 1966-67, pp. 14-16). The first students were to be admitted around 1975.

The crucial question in the decision process to establish a university in Tromsø was medicine. The Ministry's final proposal in this matter was in line with the view of the Tromsø Committee in that Tromsø should get medicine, although only the clinical part of the course. The Ministry feared problems with the recruitment of teaching staff for the preclinical part. Regional considerations made the Ministry give priority to Tromsø instead of Trondheim[1], which was the natural place for a new medical faculty in the opinion of many medical experts.[2]

The Ministry supported the Tromsø Committee's proposals on the other subjects. Dentistry was, however, to be postponed till after 1980, i.e. after the first stage of development (Bill no. 142, 1966-67, pp. 18-19). Again the fear of shortage of qualified teaching staff was the main reason. With respect to fisheries the Ministry also deferred judgement until the Ministry of Fisheries had presented its report.

Concerning administrative questions the Ministry emphasized the need for the new university to base its teaching on the institutions already established in Tromsø. However, proposals for incorporation in the university were put forward only for the Museum and the Observatory.

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1) The proposition on the University of Trondheim was also being prepared in the Ministry at that time.

2) The two existing faculties of medicine were at the Universities of Oslo and Bergen.

The Ministry, in agreement with the Tromsø Committee, proposed the appointment of a temporary executive board to lead the university in a transition period, by the Tromsø Committee considered to last five to ten years (Bill no. 142, 1966-67, pp. 28-29). Furthermore, a council should be set up to secure contact with the three Northern counties. This council should not be publicly appointed but established as an unofficial body to deal with aspects of cooperation and exchange of information.

Concerning staff the Ministry proposed 225 technical or administrative and 225 permanent scientific positions by 1980. The scientific positions should be divided according to discipline as follows:

Medicine	50
Mathematics and Natural Sciences	65
Humanities and Social Sciences	110

The permanent Parliamentary Committee on Education on March 7, 1968 recommended the foundation of a university in Tromsø (Innst. S. nr. 123, 1967-68). The new university should have an independent position in the national university system. Emphasis was put on research, particularly in fields relevant to the North, which should be an integral and important part of academic life.

The Committee's recommendations were in line with those of the Ministry with respect to rate of development, subjects to be taught, and questions regarding administration. Again medicine was very much the focus of attention. The propositions for the new universities in Tromsø and Trondheim were dealt with simultaneously by the Committee and subsequently by Parliament. Throughout the preparation of the propositions in the Ministry the debate had raged over the location of the third medical faculty. From a scientific and economic point of view Trondheim was the natural place. However, regional considerations had finally prevailed in the Ministry, which it also later did in the Parliamentary Committee. The Committee recommended that Tromsø should be given priority with respect to clinical medicine. In principle, however, also Trondheim should get medicine when developments in Tromsø were sufficiently advanced to allow a fourth faculty there (Innst. S. nr. 123, 1967-68, pp. 252-253). This was a compromise solution deviating from the view previously expressed by the Government and Ministry of Finance, i.e. that only one new faculty of medicine should be established. With respect to Tromsø the Parliamentary Committee on Education made it clear that the work then of the Harlem Committee on an integrated medical course, might prove highly relevant to Tromsø. The matter was therefore left open in the sense that Parliament might be asked to reconsider its decision on medicine and include also the preclinical part (Innst. S. nr. 123, 1967-68, p. 253).

On March 28, 1968 Parliament unanimously carried the motion to establish a university in Tromsø. In the preceding debate different representatives stressed the importance of academic standards. The new university would be small, but requirements to quality were imperative (Forhandlinger i Stortinget, 1968).

A temporary executive board, the so-called Interim Council, was appointed by royal decree on January 17, 1969, with Peter F. Hjort as chairman. Hjort was professor of medicine at the University of Oslo. The government hereby left the administrative functions and the detailed planning of the University in the hands of the Council. Needless to say, by its budgetary powers Parliament would retain the final decision in important questions.

Table 1 Main Events in the Reform to Establish a University in Tromsø.

1918	The idea is put forward for a university in Northern Norway, to be established in Tromsø.
1962	Ministry of Church and Education makes it clear that the possibility of establishing a university in Tromsø is to be investigated.
9/8 1963	The Tromsø Committee is appointed by royal decree with Professor Johan T. Ruud as chairman. The Committee is to investigate the possibilities for organizing teaching and research at university level in Tromsø.
5/1 1965	The Tromsø Committee presents its findings recommending that a university should be established which should provide teaching and conduct research in the arts, mathematics and natural sciences, social sciences, medicine, and dental medicine.
16/6 1967	The Ministry of Church and Education presents its findings in St.prp. nr. 142 (1966-67) (Bill no. 142). The Ministry generally supports the proposals of the Tromsø Committee but envisages a slower rate of development.
7/3 1968	The permanent Parliamentary Committee on Education supports the proposals of the Ministry of Education in its proposition to Parliament.
28/3 1968	Parliament votes for a university to be established in Tromsø.
20/1 1969	A temporary executive board for the University of Tromsø is appointed with Professor Peter F. Hjort as chariman. It is given the mandate to lead the planning and development of the University.
14/5 1969	At the initiative of the temporary executive board the Government in St.prp. nr. 167 puts forward a new proposition for integrated medical studies (i.e. both preclinical and clinical medicine) and those fields of study proposed by the Tromsø Committee and later by the executive board.
1/9 1972	His Majesty King Olav V officially declares the University open for enrollment.

1.4 THE CASE OF MEDICINE

The Ministry in its report to Parliament in 1962 proposed the establishment of a university in Tromsø as a *natural* development. For the first time more weight was put behind the loose talk of a university in the North. According to Rommetveit (1971, pp. 84-85) Tromsø was also singled out as the site of a fourth university to dampen aspirations in Kristiansand and Stavanger (see figure 1). In both cities people were working actively to organize teaching at university level in certain subjects. People in the Ministry of Education feared an alliance Stavanger/Northern Norway in Parliament that would promote the idea of five universities. This was economically unattainable. By supporting Tromsø, where activities to get a university were very low, the Ministry was securing more of a long term project.

Within the Ministry and the Labour Party forces were working to develop and strengthen the North. A university in Tromsø was in line with the policy of developing large, local centres for education and cultural and economic activities. Helge Sivertsen, the Minister of Education in the early 1960's under the Labour government, saw a university as an important factor in the cultural development of the region (Rommetveit 1971, p. 85).

Regional development, economically, socially, and culturally, became increasingly more important in Norwegian politics in the 1960's. A survey of the national elections in 1957, 1965, and 1969 shows that the percentages of the Norwegian electorate mentioning regional development as one of the three most important issues for the "new" Parliament and government, rose from 9 per cent in 1957 to 27 per cent in 1965 and 59 per cent in 1969 (Valen and Martinussen 1972, table 3.3, p. 103, table 4.2, p. 134, table 6.1, p. 202).

A change of government in 1965[1] brought Kjell Bondevik into the Ministry of Education. He was instrumental in changing the course of development in secondary and post-secondary education in Norway. With his origin in the Christian People's Party he promoted the cultural and social interests of the regions. That meant a more decentralized school system and thus a break with the policy of the Labour Party. Support for a university in Tromsø was therefore in line with the policy to strengthen the regions.

In late 1966 and again in a New Year's press interview (e.g. Arbeiderbladet 1967) Bondevik publicly made it be known that he would personally support Tromsø as the site of the third medical faculty. This would not be to the exclusion of Trondheim, but would temporarily mean a priority in favour of Tromsø. Bondevik's announcement was sensational in the sense that the civil servants within his Ministry were of the opinion that Trondheim offered the most suitable facilities for a speedy organization of a new medical faculty (Rommetveit 1971, pp. 116-121). The Ministry was simultaneously preparing Bill no. 142 on Tromsø and Bill no. 79 on the establishment of a university in Trondheim. The medical faculty was the only issue posing a question of preference between the two institutions. Both cities had hospitals that were expanding to meet local needs for specialized treatment. Extra expenditure could make them qualify as university teaching hospitals.

At this point the location of the new medical faculty was of considerable importance to the plans for the new university in Tromsø. The local activities in Tromsø were primarily centred around this subject. From the time of the Tromsø Committee it was more or less obvious that Tromsø would get its university. Medicine, however, was the subject

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1) Prior to 1965 a labour government. From 1965 a coalition of the centre and the concervative parties in Norwegian politics.

politicians and local people had to fight for till the Parliamentary decision was taken in 1968. Several people (e.g. Lindbekk 1966, Wallφe 1967) saw a medical faculty in Tromsφ as a political and economic guarantee for the new university. Thereby the initial investment and prestige would be so big as to serve as a security for future grants. For staff also in other faculties it would indicate that the government was of serious intent in its plans for a fully-developed university in Northern Norway.

A large section of the medical world headed by Karl Evang, the then Director of the Directorate of Health, had for a long time favoured Trondheim for the third medical faculty for academic and financial reasons. There medicine could build on well-developed pure science subjects important to medicine, such as chemistry and physics. Furthermore, the central hospital in Trondheim was more developed and could consequently more rapidly be made into a university teaching hospital than was the case in Tromsφ. There expansion would be extremely costly and could prohibit hospital expansion elsewhere in the North. Educational capacity in Trondheim would also be greater than in Tromsφ. Trondheim could draw on a larger and more varied patient material, a point which was considerably emphasized. Likewise would the recruitment of teaching staff be easier there (Evang 1967).

Others forwarded regional arguments in favour of Tromsφ, while at the same time recognizing the academic advantages of Trondheim. In the context of regional development the extra costs involved in Tromsφ were considered relatively unimportant (e.g. Strand 1967). Politicians expressed the hope that a medical faculty in the North would improve the desperate need for general practitioners in the region (e.g. Dagbladet 1967).

Evang, on the other hand, had little faith in Bertelsen's theory (see section 1.3) and pointed to experiences in the West of the country which did not support it. When medical doctors graduated from the University of Bergen (figure 1), remote districts on the West Coast were not supplied with more general practitioners. On the contrary, there had been an increase in vacancies with no applicants for the job as most medical graduates had sought employment in the larger cities (Evang 1967, see also Ministry of Education 1967B, pp. 41-42).

It should be stressed that the Ministry itself had no expertise in health matters. Prior to Bondevik's period in the Ministry the political initiative with respect to the location of the new medical faculty had come from the Minister of Social Affairs, Gjærevoll (who was himself from Trondheim). Together with Evang, whose Directorate of Health was an administrative unit in the Ministry of Social Affairs, he was a strong advocate of Trondheim. The civil servants in the Ministry of Education had no reason to weigh Tromsø against Trondheim and had reached their initial conclusion on the basis of Gjærevoll's political initiative and advice from the Directorate of Health. Conclusions reached by both the Brodal and the Bjørnson Committees, formed in 1964 to propose plans for the future development of medical education, supported the views of the Directorate. In the Brodal Committee only one member dissented in favour of preclinical medicine at Tromsø (Brodal Committee 1964, p. 1585, here quoted from Tidsskrift for Den Norske Lægeforening 1964).

Although the civil servants in the Ministry were well aware of the regional aspects, the most weight was attached to the conclusions reached by the medical expertise. In the draft to the proposition on the University of Trondheim (Bill no. 79) priority was given to developments in Trondheim (draft of the bill on the University of Trondheim, here quoted from Rommetveit 1971, p. 117). By his political statement to the press Bondevik changed the conclusion reached by the civil servants in the Ministry. *Regional development and the theory that a medical faculty in Tromsø would mean an increase in the number of medical doctors in the North*, were Bondevik's reasons for promoting Tromsø. These views were also clearly expressed in the final version of Bill no 79 (Ministry of Education 1967B, pp. 43-44). Bondevik had made his announcement before the government had debated the matter. This was bound to influence its decision as it could hardly then oppose the Minister's views (Rommetveit 1971, pp. 119-121).

Gradually the regional arguments for a medical faculty in Tromsø were coupled with views on a *new* organization of the course. Advocates of the latter saw in Tromsø an institution where the new ideas could be realized. A committee was set up by the Ministry of Education to investigate the integration of medical education with regional health services, and the integration of the theoretical and clinical part of the course. Although the Committee was initiated as a result of new ideas brought forward by a study-group in Tromsø, its mandate was, for various reasons, not specifically related to the University of Tromsø. The Committee, known as the Harlem Committee, delivered its proposals in July 1968, about three months after the proposition on the University of Tromsø was passed by Parliament. In anticipation of this Committee's proposals Parliament in March had been told that a reconsideration of its decision on medicine might be called for (see section 1.3). The Harlem Committee's report therefore became of considerable importance to the Interim Council and its proposals for Tromsø.

1.5 LOCAL ACTIVITIES IN TROMSØ

After the Tromsø Committee had submitted its recommendations in 1965, local activities in Tromsø were growing. Academic people and local politicians realized that further arguments supporting the idea of a university in Tromsø had to be forwarded to the central political authorities. As a result various bodies were activated. Tromsø City Council established a special university committee after the publication of the Tromsø Committee's recommendations (e.g. Harstad Tidende 1968, p. 31). In 1967 this was succeeded by the University Committee organized by the Cultural Committee for Northern Norway.

The Cultural Committee itself sought various ways of promoting the idea of a new university. Central in its work and in that of the university committees was the importance attached to a medical faculty. Public meetings were arranged. The cooperation was solicited of ardent supporters of medicine in Tromsø such as Professor Bertelsen and Kaare Torp, chief of the children's department at the Central Hospital. The Committee's investigation into the need for professional people in Northern Norway demonstrated a shortage of e.g. 160 medical doctors, 115 dentists, and 350 secondary school teachers for the region to reach the national average (Cultural Committee for Northern Norway 1966, pp. 6-7, see also section 1.2). The large size of the medical districts and the difficult means of communication made the shortage of qualified manpower even more serious for the region.

The University Committee, organized by the Cultural Committee in 1967, had a coordinating effect on local activities. The members of this Committee represented the scientific institutions in Tromsø, the city, and county council. Anders Omholt, professor of physics at the University of Oslo, then attached to the Observatory, was chairman of the Committee. His membership and his local importance was the result of the need for people with knowledge of university affairs to promote the region's arguments (A. Omholt, pers.comm. 1979).

Although the Committee was established to argue the case of the university, its work concentrated on medicine. The Committee activated new groups in the region - organizations, political parties - in the demand for medicine. Their statements of support were passed on to local representatives in Parliament and people in the central administration. Public debate was stimulated. The student society had, for example, been formed in Tromsø as early as 1967. The number of articles on the university in the local press increased considerably. In 1967 there were as many as 51 articles in Nordlys dealing with medicine. According to Rommetveit (1971, pp. 137-138, 143-144) this increased press coverage was partly an expression of a growing local interest for the university, partly a method used by the advocates of medicine of creating public support. It also gave politicians the impression that the university was a public demand.

1.6 THE PERIOD OF THE INTERIM COUNCIL

1.6.1 The Appointment of the Interim Council

When the proposals on the University of Tromsø were passed by Parliament on March 28, 1968, the Ministry in the autumn started its recruitment of people to serve on the Interim Council. Professor Hjort was first approached and asked to be in charge of the development of clinical medicine. The fact that medicine was given priority in the recruitment process, again demonstrated the importance attached to this subject for the whole University. Hjort was approached on the basis of his wish to change the traditional type of medical education. Although sympathetic to the regional arguments forwarded with respect to medicine at Tromsø, more important to him was his desire to create a medical course different from the ones offered at the Universities of Oslo and Bergen. The medical faculty in Oslo, hampered by traditions, had been insensitive to attempts at change. The work of the University Committee in Tromsø and the proposals of the Harlem Committee from July 1968, had paved the way for new ideas and established the notion that a new medical faculty in Tromsø was associated with innovation.

However, Hjort would not accept the task offered him unless specific conditions were met. These he made clear in a letter to the Ministry of Education in October 1968 (Hjort 1976, pp. 20-41). His plans for medicine went much further than the proposals on which Parliament had based its decision in March. Preclinical and clinical medicine had to be developed simultaneously. The course should build on an integration of preclinical and clinical medicine, which would also result in an integration of laboratories and institutes administratively and in buildings. The government had to commit itself to a certain pace of development. The initial costs for a teaching hospital would have to be increased considerably to include the preclinical institutes and laboratories (Hjort 1976, pp. 21-22).

Although reluctant, the government accepted Hjort's conditions unaltered, by some considered a unique event in Norwegian administrative practice. Hjort voiced the opinion of other professional people critical of current medical teaching, but formally he only represented himself. However, the government was also aware of the fact that there were few other professional people available to undertake the responsibility of developing a different type of medical education, especially if Hjort refused. Furthermore, medical experts had generally demonstrated that they favoured developments in Trondheim.

With Professor Hjort and Professor Omholt the Interim Council consisted of six scientific members representing different disciplines, and two student representatives. Appointed by royal decree on January 20, 1969, it was to serve for two years to:

a) recruit personnel;

b) prepare proposals for laws and regulations;

c) develop plans for building and equipment; and

d) be in charge of daily business.

(St.prp. nr. 167, 1968-69.)

In the initial phase Hjort and Omholt obtained the government's guarantee that financial involvement in Tromsø represented an *extraordinary* granting of funds (Rommetveit 1971, p. 159). This was to stem any scepticism at the other academic institutions that Tromsø would draw funds away from them, and that the building of a new hospital in Tromsø would be so expensive as to curb further development of the health service elsewhere in the North. Furthermore, the revised plans for the medical course were at a later date to be presented to Parliament in a special document (Rommetveit 1971, p. 159).

1.6.2 The Work of the Interim Council

The process of implementing the objectives laid down in the parliamentary documents started with the work of the Interim Council. These objectives served as underlying principles for the goals formulated by the Council. Apart from the special attention given to medicine, which was reconsidered by Parliament in 1969, the Interim Council was primarily concerned with internal university political questions. Its work was concentrated on aspects of the University structure and policy for which no official goals had explicitly been stated. These objectives got their official sanction through parliamentary propositions. The goal formulation process therefore took place in two ways, i.e.:

a) within the publicly appointed committees, the Ministry of Education, and Parliament prior to the Parliamentary decision in 1968 (dealt with in sections 1.3 and 1.4);

b) in the Interim Period through the Interim Council, the specially appointed Goal-Formulating Committee, the various disciplinary committees, and through participation from University staff and students.

The Goal-Formulating Committee was established by the Interim Council early in 1969. In the course of the academic year 1970/71 nine temporary disciplinary committees were formed to prepare courses, teaching, research, and budget for the various disciplines.1) Their members were recruited among academic staff and students at the other universities and university colleges; 25-30 per cent of their members were student representatives (Utvalg og komitéer med tilknytning til Universitetet i Tromsø *s.a.*). Here the emphasis is put on the objectives put forward by the Interim Council and the Goal-Formulating Committee, and on the subsequent discussions in the University.

During the goal-formulating period within the University the students played a very active role. The work of the Interim Council took place at a time that was marked by student unrest. Throughout the latter part of the 1960's general political issues had been central in student politics. The university was seen as an active participant in the process to create a more just society. This should be reflected in a more critical teaching and research policy within the university. The only way to realize this was through a more just representation of all groups within the university in all internal decision processes.

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1) The committees are listed in Appendix I.

The University of Tromsø was launched as a regional political undertaking. Its significance was primarily seen in relation to the Northern region. For the students "the regionally relevant" aspect provided an important political basis. They saw an opportunity to create a university that could be instrumental in changing local conditions. As a result they became active participants on all planning-committees within the University.

The goal-formulating process within the university obviously had different participants with different goals: The Ministry of Education, the teachers, the local community, the students. Students and teachers had a common purpose in their wish to create something new, an alternative to the established universities. Medical experts disenchanted with the existing medical faculties' reluctance to change, saw in Tromsø a chance to create a new type of medical course. The same applied to social scientists. For the local community the University was seen in the role of problem-solver. For Parliament and the Ministry of Education the University was important in the educational, social, and economic improvement it would bring to Northern Norway.

The Interim Council's plans for the new University, and in particular the medical course, were presented to the Ministry of Education in March 1969 (Universitetet i Tromsø 1969). In its goals the Council did not specifically emphasize the regional aspect. However, the main purpose for the University was clearly stated in its general objective, i.e. a university was to be built that would be an intellectual and cultural centre in the North. The Council wanted to create an institution with academic standards comparable to the other universities in Norway. Given the location and the academic disciplines for which Parliament had given its approval, it was a challenge to develop a small but viable university, which would also be attractive to students outside Northern Norway.

Initially the work of the Council was primarily centered around medicine considered to be of profound importance to the whole University (Hjort 1976, p. 42). During the winter of 1969 the debate over the location of the third medical faculty started again (e.g. interview with Brodal, 1969). According to Evang (1969) the priority given to developments in Tromsø, could not be considered a final decision; Hjort's plans for the organization of the medical course had changed the basis for the Parliamentary decision in 1968, requiring a new sanction by Parliament. For the Interim Council Evang's attacks were seen as a threat to the execution of the Parliamentary decision of the previous year.

Thus the Council's proposals for the medical course constituted the basis for the Ministry's renewed approach to Parliament since, in effect, the structure of the course and the financial implications differed considerably from the proposals on which Parliament had based its vote. Of prime importance, however, was securing a ratification of the previous decision, i.e. that developments in Tromsø should have priority over Trondheim (Universitetet i Tromsø 1969, p. 3).

A speedy treatment in the Ministry resulted in Bill no. 167 concerning the Development of a School of Integrated Medicine at the University of Tromsø (St.prp. nr. 167, 1968-69). The Bill was further treated in the permanent Parliamentary Committee on Education (Innst. S. nr. 318, 1968-69). Both Bill no. 167 and the recommendations from the Parliamentary Committee were in line with the objectives proposed by the Interim Council. The Bill was ratified by Parliament on June 20.

The Interim Council hereby secured official recognition also of its general goals for Tromsø which concerned:

a) interdisciplinarity in studies and research;

b) a university oriented towards society;

c) an organization of the administrative institutions based on a high degree of decentralization;

d) innovation in educational methods and the examination system.

These goals were marked by the challenges that had been raised to the traditional institutions. They reflect a desire to create a university that would represent an alternative to other universities in Norway. This in itself would be attractive to students and teachers disillusioned with existing ones. In due course experiences in Tromsø might be instrumental in changing other, more traditional systems.

The proposals for medicine secured an integrated medical school (i.e. preclinical and clinical medicine) with a university teaching hospital.1) The other subjects were not further discussed by the Ministry or by the Parliamentary Committee. Generally the Council followed the proposals in Bill no. 142 except for dentistry. This subject ought to be developed parallel with medicine. The Interim Council emphasized that traditional barriers between disciplines should be broken down, such as between zoology and botany, and encouraged cooperation between, for example, medicine and the social sciences. By their nature medicine and the social sciences related to society outside the university. They would therefore be of particular importance within the new University (see also chapter II for a further discussion of the goals).

In 1970 the Interim Council again turned to the Ministry and Parliament with a plan to start teaching and research in temporary buildings as early as 1972-73.

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1) This might involve the building of a new hospital.

The plan was approved by the Ministry of Education (St.prp. nr. 118, 1969-70), the permanent Parliamentary Committee on Education (Innst. S. nr. 299, 1969-70) and by Parliament (Forhandlinger i Stortinget 1970). The Interim Council foresaw a speedier development in the initial stage than envisaged by the Ministry in Bill no. 142. The Ministry had planned to admit the first students from about 1975; for the languages and social sciences this presupposed the availability of permanent buildings. Teaching and research should now start in temporary buildings, partly in rented accomodation, partly in buildings added to the Hospital and the Museum (Universitetet i Tromsø 1970, table 1, pp. 1-5).

The Interim Council had various reasons for proposing such a plan. For one thing the regional political basis for the University made it important to start as soon as possible. The youth in the North needed the university *then*, not in 10-15 years when new buildings were ready to receive them. The region needed the academically qualified candidates as soon as possible. Pressure on the University of Oslo would be relieved. Furthermore, for psychological reasons it was important to start while the enthusiasm was still there. Recruitment of staff would take time, and a body of research staff could be recruited while the permanent buildings were being erected. Then these people could plan their own university and disciplines. Investments would thereby be spread over a longer period of time and thus reduce the immediate pressure on the local community. The plan therefore had two main functions, i.e. to create enthusiasm and support within the University in the initial stage, and secure financial guarantees and staff before the competition with other projects became too serious. According to Rommetveit (1971, p. 167) the Interim Council realized that the hospital expansion taking place in Trondheim could create recruitment problems for medicine at Tromsø unless Tromsø got started as early as 1972-73.

1.6.3 The Goal-Formulating Committee

The Goal-Formulating Committee was formed in February 1969 with Professor Omholt as chairman, the only one who was also a member of the Interim Council. The Committee was important in the planning of the University statutes and the goals for its future work. The Committee should keep in mind that the University of Tromsø was no provincial university, although special consideration should be given to local circumstances.

The general goals presented by the Interim Council in 1969 were incorporated in the more detailed proposals put forward by the special Goal-Formulating Committee in March 1971. The Committee put no special emphasis on the medical subjects; its report dealt with the University as a whole (Innstilling fra Målsettingskomitéen 1971). The goals were presented under four headings, i.e.:

1) the university in the region;

2) research and studies:

3) management and administration;

4) student welfare, and the financing of studies.

The proposals reflect ideals prevailing at the time, of a university more directly concerned with the problems of the local community, and a more democratic system of government involving groups not traditionally represented on the administrative bodies.

Here attention is focused on the three first objectives, which may briefly be described as follows:

1) The University in the Region

The University as an active participant in the surrounding community was central in the Committee's views. The University's role was seen in two contexts:

a) *as a main source of information.* An information committee was envisaged, which should cooperate with other educational institutions in the region in arranging courses and providing lecturers. Via such a committee the University should participate in various forms of continuing education.

b) *as actively engaged in research to benefit the region.* The research should be directly concerned with local problems related to, for example, fisheries, medical and social conditions. Two forms of research were stressed: basic research directed towards the solution of common social problems; applied research to solve the problems of particular groups of the population or e.g. small important industries short of funds.

The Goal-Formulating Committee also put forward the idea of a special council through which the region could work to influence the University. However, the complex problem of representation made it leave the organization of a formal system of local representation to the University itself.

2) Research and Studies

Research areas of social interests, especially those related to the region, should be emphasized. These would demand interdisciplinary cooperation. The Committee imagined loosely organized temporary research groups. These should consist of people from different institutes cooperating on specific projects. As one of the permanent committees, a special Research Committee should promote interdisciplinary research projects and projects of direct or indirect relevance to Northern Norway. However, such projects should be initiated and financed by the University itself.

The individual courses were to be organized in three independent stages leading to a lower degree, a higher degree, and a doctorate respectively, Two of the Committee's members were not in agreement with a threefold division. The fact that such a system was used at the other universities counted in favour of introducing it at Tromsø. The Committee emphasized participation in research also during the lower part of the course. Various ways of teaching in smaller groups were recommended. Examination marks should to a large extent be replaced by a pass/fail system, particularly for smaller courses. Continuing evaluation should be carried out and the end result based on work done during the course (e.g. a special essay) and some sort of final examination. The mutual recognition by different universities of examinations in relatively similar subjects should be extended to cover examinations also in dissimilar subjects. The universities should recognize a general "academic level" and leave it to the students to acquire additional knowledge necessary to follow a particular course in another institution.

3) Management and Administration

The basic unit in the University should be the institute (the number was then put at eight). Each institute should be composed of subjects similar with respect to content and research methods. The institutes might vary in size but should have no less than 10 and no more than 40 permanent teachers. They should have their own administrative institutions such as a council, an executive board and a well-developed secretariat. The institutes might be divided into special research or project groups in a system which should not be strongly formalized or binding. This would be an internal matter for the institute or between institutes.

The traditional faculties should be abolished. The University's central government should be the Senate and the Executive Board. The Senate was to elect the members of the Board and the University's rector. It should be concerned with matters such as long-term planning, budgetary questions, and regulations for the individual institutes. The Board and rector were to deal with day to day business. In addition the University should have a central administration with a director to prepare matters for Board and Senate, and with executive powers.

The Committee proposed four central university committees, i.e. a research committee (previously mentioned), a planning - and budgetary committee, a welfare committee, and a culture and information committee.

The question of representation was the most important aspect of the University's government. Here the Committee went much further than was the custom at existing institutions. On all administrative bodies the representation of students and non-scientific personnel was considerably increased, resulting in the following division of places: permanent teachers (40%), fellows (10-20%), non-academic personnel (10-20%), and students (30-40%). The decision power should no longer rest with the people appointed on scientific merit. The students were to have considerable influence on university policy.

Concerning staff the permanent academic positions should be organized as at the other universities with the professorship at the top of the hierarchy. The Committee saw the appointment of whole groups of scientific personnel in the early stage as a way of establishing good scientific milieus. As temporary staff the Committee considered assistents, i.e. advanced students participating in teaching and institute work, and fellows, students preparing their doctorate while partaking in teaching and institute business.

1.7 THE ADOPTION OF THE UNIVERSITY STATUTES, CONTROVERSIAL ISSUES

Certain aspects of the proposals about the University's administration caused debate, unrest, and eventually lead the first elected rector, Professor Hjort, to give up his rectorship in the autumn 1973. The proposals of the Goal-Formulating Committee were presented to all members of the University who were invited to take part in the final round of formulating the goals for the University. This process concentrated mainly on the University's government, although members of the University also wanted the debate to include other aspects of the goals proposed.

The issue at stake was the degree of democracy. The Interim Council was split on the question of the relations between Senate and Board. The size of the Board and its powers were debated, as well as the necessity of a permanent planning - and budgetary committee to prepare the budget for the Senate. Debated was also the question of the number of student representatives in the Senate and the right to recall elected representatives.

A description of the setting for these events seems necessary. Through Hjort and the Interim Council the ideas of reform were made real. Personnel had been recruited to work out plans for the subjects to be taught at Tromsø. The University started teaching and research in provisional accomodation from 1972/73, two to three years earlier than envisaged by the Ministry of Education. Many members of the University wanted all groups within the institution to influence university policies. The feeling prevailed that all members were indeed part of a democratic decision process. There was a sense of solidarity in the common cause of making the University succeed (see e.g. Lindholm 1972, p. 232). The creation of a new university was a chance in a lifetime to actually try new ways in teaching, administration, and research.

The ideals had been brought forward and articulated in the "student unrest" of 1968. They had a value in themselves as a source of inspiration and had brought people to Tromsø. In Tromsø one would have the opportunity to harvest the fruits of these ideals, and also be confronted with the burdens once they were put into practice.

Some members of the teaching staff had probably also come to Tromsø for more personal reasons. They saw a chance of advancing in the academic hierarchy and thereby qualify for more senior positions in the South, while at the same time developing something new in their own field.

Typical of the debates that took place in 1972/73, was the title of a seminar arranged by the student council in October 1972: "Democracy or Efficiency at the University of Tromsø". According to Løchen (presently rector of the University) the debate was a confrontation between two views of the University. This could be illustrated by slogans such as: a) participation, independence, and democracy against b) action, efficiency, and good external relations (Løchen in Dokumentsamling til Målsettingsdebatten 1972, pp. 47-49).

Essentially the opposing views concerned the relation between Board and Senate. Hjort wanted a representative Board consisting of about 10 members chosen by and among the members of the Senate. The Board should deal with day to day business while the Senate should be concerned with important questions of a principal nature. The other proposal (supported by the students on the Interim Council) called for a smaller Board, consisting of seven members, to serve as a working-committee for the Senate. Budgetary matters should be prepared for the Senate by a special planning and budget committee and not by the Board. People behind the latter proposal wished to create an efficient Senate where elected representatives from the various institutes and groups would have real influence in central decisions (Lindholm 1972, p. 236).

Hjort's proposal eliminated the planning and budget committee, incorporating its powers in the Board. The Board would prepare matters for the Senate whose authority and number of meetings per term were left more open (Lindholm 1972, p. 236). The main argument in favour of Hjort's proposal wa the need to have a representative body that would meet regularly and frequently to deal with the extensive and complex business of running a university.

In March 1973 the Interim Council presented the University statutes in a compromise proposal. The Senate was the University's highest organ of government. Hjort's wish to have a strong Board had been accepted on the condition that the Senate should meet more frequently, about once a month. Dissenting members of the Board should have the right of appeal to the Senate. The system of representation in the Senate was established. Elections should take place within each institute. The students were to have 14 representatives. The right to recall representatives was established. For the students at Tromsø, and also for members of the staff, the 1/3 student representation on all governing bodies was of vital importance. Although Norwegian universities and similar institutions were not alien to student representation, the proposals put forward in Tromsø went much further than was customary elsewhere. These proposals included no representation from the region in the University Senate (but see section 4.9.1).

The compromise proposal was voted upon by all members of the University, and carried by a 73 per cent majority. However, to the anger of staff and students the Interim Council shortly afterwards revoked its decision on the number of student representatives, which was reduced to 10. Hjort was instrumental in this. He had grown sceptical of the way the students prepared and argued different issues. They had a tendency to vote as one group and were also bound by decisions laid down in their general assembly, which was not necessarily representative of student opinion. This was liable to create an unstable situation on the governing bodies. A couple of resolutions presented at the time of voting, made Hjort support a reduction in the number of student representatives in the Senate (see e.g. Uniternt 1973, p. 2).

The Ministry of Education, however, adhered to the original proposal and consented to 14 student representatives but established certain restrictions on the election process.

The students' lack of support for Hjort as the University's first elected rector made Hjort decide not to accept the rectorship, although he carried the great majority of the votes in the Senate. He claimed he could not serve without the confidence of the students. The newspapers in Tromsø accused the students of being irresponsible radicals and responsible for Hjort's leaving Tromsø. Representatives of political parties in Tromsø, representatives in Parliament,and people in the Ministry deplored his departure (e.g. Tromsø 1973A, Nordlys 1973). The students were by many labelled as "red", a political connotation they felt was given to discredit them and the use they had made of what they felt to be their democratic voting rights (e.g. Student Forum 1973, Tromsø 1973B). Hjort, on the other hand, accepted their view and the mistrust they felt he had created by changing his mind concerning the number of student representatives (e.g. Nordlys 1973).

II THE GOALS OF THE REFORM

2.1 GOALS FORMULATED PRIOR TO THE PARLIAMENTARY DECISION IN 1968

In order to recapitulate, the goals for the University of Tromsø proposed in the first goal-formulating period may be stated as follows:

1) the University should be an important factor in the development of Northern Norway;

2) it should be an autonomous institution with academic standards comparable to the other universities in the country;

3) it should extend the facilities for higher education;

4) the students should primarily be recruited from the North;

5) by 1980 the number of students was stipulated to reach 2,000 - 2,200;

6) with respect to staff the University by 1980 should have 225 permanent scientific positions and an additional 225 positions for technical and administrative personnel. Fellows were also considered but no numbers were given;

7) areas of study were to include clinical medicine, dentistry after 1980, mathematical and natural sciences, the arts, and social sciences. The following subjects were listed:
The pure and applied sciences: auroral physics, mathematics, botany, zoology, geology, marine biology, plant physiology, i.e. subjects related to institutions already established in Tromsø;
The arts: Nordic languages, history, English, German, the Sami language.
The social sciences: teachers training course, ethnography, psychology, archeology, economic/administrative subjects, sociology.

8) research should concentrate on areas which it would be natural for a university in Tromsø to handle.

The University as an Important Factor in Regional Development

The regional importance attached to the University may be considered a *primary* goal for the institution. For the Ministry and Parliament several of the more objective goals followed as a natural consequence of this underlying principle, e.g. geographic background of students, subjects to be taught, and the size of the University. A further definition of what the term "regionally relevant" really implied, was left to the University itself. The Ministry of Education and Parliament did, however, point to important indirect effects of the University. Of profound importance for the decision to establish a university in Troms0 and in particular with respect to the medical faculty, was the supposition that the students would choose their occupation in the region once they had graduated. This implied that subjects taught in Troms0 were consistent with the type of qualified personnel required by the labour market in the North. The areas of study proposed for the initial period of development, were indeed chosen in recognition of the type of academically qualified people most needed in the region. Furthermore, the Ministry of Education saw the University as an academic and scientific centre which would be a stimulus for academically qualified people to remain in the region. Thus it was hoped that the University would be instrumental in stopping the brain-drain to the South.

The University as an Autonomous Institution

Within the Ministry there was a deep-rooted tradition not to govern the universities. Although it could put limitations on developments through its budgetary powers, the University of Troms0 was free to give priority to subjects and areas of research. Inherent in the goal of autonomy was the possibility of a conflict with the regional objective. The Troms0 Committee and the Ministry had stressed the importance of establishing a council to promote cooperation and exchange of information between the University and the three Northern counties. The form of representation from the three counties was not discussed. Potentially regional representation could come into conflict with the university tradition of being independent from outside influence. Characteristic of the Ministry's attitude was its reluctance to establish such a council as anything but an unofficial body.

Extention of the Facilities for Higher Education

At the time of the Tromsø Committee the question of extending facilities for higher education was an important argument in favour of developments in Tromsø. However, its importance decreased as the aspect of regional relevance gained momentum. In any case Tromsø was never considered to grow into a very big university.

The Students: Geographic Background and Numbers

Although recognizing that the students should primarily be recruited from the Northern region, the permanent Parliamentary Committee on Education emphasized that research and teaching should be developed in special areas which would be attractive also to students outside the region. A wider recruitment would enrich the milieu, academically and for the students.

Calculations of student numbers were based on one important supposition, i.e. that there would be an increase in the percentage of secondary school graduates in the North qualifying for university entrance. This was a question outside the control of the Ministry of Education, partly because developments within secondary education in the middle of the 1960's were turned over to the county authorities, partly because this was a question of personal motivation.

Areas of Study

The fields of study to be included in the starting phase were those which would secure medical doctors, teachers, social scientists, and specialists in the Sami language and culture. The University was given no list of priorities for future developments. In view of the tradition within the Ministry not to govern the universities, it might be difficult in the future to secure internal university developments of relevance to the region. With respect to medicine the priority given to

Tromsø was not clearly defined, and the possibility existed that Trondheim could start developments before Tromsø had got properly under way.

Research

The Ministry stressed areas of research which Tromsø, as a result of its location, could handle better than other universities. The importance of the research carried out at the Auroral Observatory was seen in an international context, and the Ministry wished the Observatory to be developed into an Institute of Cosmic Physics. The study of, for example, Nordic flora and fauna was stressed, as were areas within Northern archeology, the Sami language, and ethnography. In the official goals the role of the University as an active problem-solver in the region was *not* emphasized. The Ministry and Parliament went no further than to stress the need for mutual contact between the University and the region.

2.2 GOALS FORMULATED IN THE INTERIM PERIOD

The internal university political goals were concerned with innovation. Students and teachers active in the goal-formulating process wanted to create a university that would be different from existing ones. The role of the university as an important factor in regional developments was bound to put special demands on the government and policies of the University.

The objectives formulated within the University were mainly qualitative in nature. In this paper emphasis is put on the following:

1) research and teaching should be of relevance to Northern Norway. A council should be established to secure cooperation between the region and the University.

2) the University should have a decentralized and democratic system of government.

3) emphasis should be put on educational innovation, exemplified by interdisciplinarity in research and teaching, and new examination procedures and teaching methods. A special research committee should be formed to deal specifically with interdisciplinary research projects and projects of direct or indirect relevance to the North.

Regional Relevance of Research and Teaching

Concerning the regional relevance of research the internal goals went further than those expressed in the parliamentary documents. The Goal-Formulating Committee emphasized the role of the University as a problem-solver through specific research projects designed to benefit the region. The goal of regional relevance may be said to be more the result of the ideals of the time than the traditions within Norwegian universities. Students and teachers at the University of Tromsø in the initial goal-formulating period were preoccupied with the active role they could play in this respect. However, the problems associated with regional representation in the University government, clearly demonstrated the University's fear of external influence. This exemplified a problem of split loyalties. On the one hand the University felt loyal towards its immediate surroundings, on the other hand towards that which is essential in the history of the universities, i.e. their autonomy.

The University Government

The system of government presupposed active participation at all levels by groups of people who only to a limited extent had been represented in the government of the traditional universities. The degree of student representation went much further at Tromsø than was the case at the other universities in Norway. The extent to which the views of these new groups (i.e. students and non-scientific personnel) would really have an impact on the decision process, was important for the way this type of university government would prove to function.

It should be kept in mind, however, that many of the students active in securing the right of representation would have left the University once the implementation of the reform got under way. The teachers active in the goal formulating period were more likely still to be members of the University.

Interdisciplinarity in Research and Training

The term interdisciplinarity was not clearly defined by the Interim Council or the Goal-Formulating Committee. For medicine it was more specific in that it implied integrating the preclinical and clinical parts of the course. In relation to the other subjects and to research, however, the term was more diffuse. It could imply the cooperation of representatives of different disciplines in a multi-disciplinary project or a much more fundamental process of creating a "new" subject by merging common features of various related disciplines. The practical consequences were left to the people who were to develop the different courses. This goal would, however, be imposed on academics and students whose previous training and experience had taken place in discipline-oriented academic milieus. At that time interdisciplinarity was no characteristic aspect of Norwegian institutions.

Examination Procedures and Teaching Methods

The abolition of marks was an ideal. However, this could pose a problem for candidates wishing to transfer during the course to other institutions using marks. Furthermore, the consequences in relation to the labour market were not discussed. To many employers marks serve as an important screening device.

With respect to extended use of smaller groups and seminars this presupposed a favourable student/staff ratio. This again was a question of budget, i.e. whether the University whould be granted a sufficient number of academic positions to secure such a teaching system.

2.3 CONCLUSIONS

An important distinction prevails between the goals formulated during the decision process to establish the University, and those formulated during the period of the Interim Council. While the Ministry and Parliament expressed rather traditional views about the new University, the Interim Period at the University made it clear that staff and students were planning an institution, different from the existing universities in several respects.

Bill no. 142 stressed that the University should concentrate on traditional subjects both within the arts and the pure and applied sciences. Research should be related to areas which it would be *natural* for the University to cover, such as auroral physics and the descriptive sciences, the Sami language, and ethnography. The University was to play a modest role both with respect to subjects and size. In view of the fact that both the Parliamentary Committee on Education and Parliament emphasized the importance of recruiting students to the University of Tromsø also from outside the Northern region, it may be considered somewhat surprising that the University was planned as such a small institution. A larger university would have meant the development of more and broader subjects, which in turn would have attracted larger numbers of students. Forecasts for the number of places needed in the university sector by 1980 made it clear that considerable expansion would be required (see Lindbekk 1968, pp. 14-16). In view of these forecasts the plans for Tromsø were rather modest.

Aspects of innovation are therefore primarily associated with the period of the Interim Council and with the goal-formulating process taking place at that time. Innovation both with respect to medicine and other subjects gained force primarily during the Interim Period. As a result the government changed its first decision with respect to the medical course, and committed itself to more extensive developments than originally envisaged. The goals formulated in this period relate to a new system of university government and innovation in teaching methods and ways of organizing subjects. With respect to research, proposals from the Goal-Formulating Committee gave the University a more far-reaching role than envisaged in Bill no. 142: the University should actively seek to solve the problems of the region.

Eight years have passed since the University of Tromsø was formally declared open for enrollment. To what extent have the original goals for the University influenced its developments? The following chapter gives a description of the University as it is today. The different objectives as they were formulated by the central administration and internally in the University, will successively be compared with the actual outcomes. However, the University of Tromsø is still very much in a process for development. The outcome of several of the goals, pointing to long-term effects on the region, may therefore at this stage not easily be measured.

III THE UNIVERSITY OF TODAY

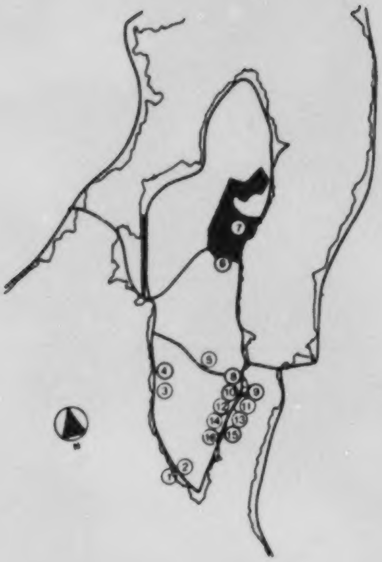
3.1 THE LOCATION OF THE UNIVERSITY

The University of Tromsø is scattered all over the Troms island (see figure 2). This is partly because the University has incorporated institutions already established in Tromsø when the University started, partly because it is temporarily situated in different buildings in the city. The University *campus* is located to the North of the city at Breivika, where the permanent buildings are being erected. By 1978 the first stage of building at Breivika, which includes the Institute of Mathematical Sciences and the EDP-centre, was completed, and the staff and students moved in in the autumn 1978.

The building process at Breivika is to take place in six different stages, which are at various points in the planning-process. Time of completion was in 1979 considered to be some time in the 1990's. In total the buildings, excluding the medical institutions, are stipulated to cover an area of about 50,000 sq m, the regional hospital and other medical institutions, 103,000 sq m. Completed the regional hospital will probably be among the largest buildings in the country. The Institute of Mathematical Sciences erected in the first stage, covers 9,400 sq m and thus constitutes only a very small proportion of the total sq m still to be built. This Institute is constructed so as to accomodate twice the number of students at present enrolled.

3.2 EXPENDITURE

Expenditure in relation to the University of Tromsø may be considered in two ways, i.e. with respect to buildings and running costs. Concerning buildings the University is still very much in a phase of development. The erection of the new hospital (the University teaching hospital) has not yet started, and only a small part of the permanent buildings on the University campus at Breivika has been completed. Any calculation of building costs would therefore not be reasonable.



1) The Marine Biology Station, teaching in biology of fisheries is given here.

2) Tromsø Museum.

3) The state-run experimental farm at Holt. Cooperates with the University within the fields of plant physiology and game biology. The University's experimental farm is here.

4) Åsgård Hospital. Houses the Institute of Social Medicine and the University Clinic.

5) The Auroral Observatory.

6) The "transit building". The Institute of Biology and Geology, and the Institute of Fisheries are located here.

7) Institute of Mathematical Sciences.

8) Department of Practical Education.

9) Central Administration, Department of Planning and Development.

10) Tromsø Student Welfare Organization.

11) Institute of Social Sciences.

12) University Library, Institute of Languages and Literature.

13) The EDP-centre.

14) Teachers of Nursing Course, School for Public Health Nurses.

15) School of Medicine.

16) Regional Hospital, University Clinic.

Figure 2 The Location of the University of Tromsø 1979.

Running costs are higher per student at Tromsø than at the other universities. This is partly reflected in the student/teacher ratios which show markedly fewer students per teacher at Tromsø than at the other universities. It is important to keep in mind, however, that any university, irrespective of number of students, needs a basic number of subjects, specialities within subjects, and staff, and a basic amount of equipment, buildings, and books in order to function. Medicine, for example, cannot be taught unless all special subjects deemed necessary for a professional degree can be provided. The pure and applied sciences likewise need a basic amount of laboratories, equipment, and technical assistants. Thus the initial costs in the development of the various subjects are high, irrespective of the size of the university. Furthermore, higher budgets for Tromsø on items such as travelling and telecommunication are considered legitimate as compensation for its distant location.

Table 2 Running Costs per Student at the Universities of Tromsø, Oslo, Bergen, and Trondheim in Different Fields of Study. 1978.

Field of Study	University			
	Tromsø	Oslo	Bergen	Trondheim
	N.kr.	N.kr.	N.kr.	N.kr.
Medicine	100,000	61,000	70,000	61,000
Pure and Applied Sciences	114,000	52,000	65,000	41,000
Social Sciences	46,000	18,000	18,000	14,000
Arts	33,000	19,000	20,000	17,000
Total	64,000	28,000	32,000	35,000

Source: Ministry of Education, unpublished material 1979.

With such reservations duely in mind it may be pointed out that running costs per student at the University of Tromsø in 1978 were considerably higher than at the other three universities (table 2). The differences are most striking in the pure and applied sciences and social sciences where costs per student at Tromsø are double to three times as high as at the other universities.

3.3 STAFF

With respect to staff the University should have 225 permanent scientific and 225 technical and administrative positions by 1980. These proposals did not include staff for preclinical medicine and fellows which, according to the Ministry of Education, would have added about 70 positions to the original goal.

By December 31, 1981 the different positions at the University of Tromsø were divided as follows:

	268	scientific positions
	325	technical/administrative positions
	15	scientific posisions, Institute of Fisheries[1]
	9	technical/administrative positions, Institute of Fisheries
Total	617	permanent positions

In addition the University had 17 part-time positions as professor II or reader II (St.prp. nr. 1, 1980-81, pp. 71, 145).

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[1] Positions at the Institute of Fisheries are given over the budget for the Norwegian College of Fisheries.

Thus the University has a higher number of positions than originally envisaged in Bill no. 142, even after including the additional positions needed for preclinical medicine. The relative increase is higher for non-scientific staff, while the present number of scientific staff may be considered only slightly higher than the original proposal. At the same time the student numbers at Tromsø in 1980 were much lower than the target of 2,000 - 2,200 set for 1980, which has resulted in rather favourable student/teacher ratios. A comparison with other universities in Norway seems relevant at this point. As table 3 shows, the ratios in different subjects at the Universities of Oslo, Bergen, Trondheim, and Tromsø (based on scientific personnel) are extremely favourable to the University of Tromsø in all fields of study, particularly in the arts and social sciences (see also section 3.2).

Table 3 Student/Teacher Ratios at the Universities of Tromsø, Oslo, Bergen, and Trondheim in Different Fields of Study. 1979.

	University			
Field of Study	Tromsø	Oslo	Bergen	Trondheim, College of Arts and Science
Medicine	3.5 (4.0[1])	4.6 (6.2[1])	4.4 (5.5[1])	–[2]
Pure and Applied Sciences	4.4	7.5	5.3	8.4
Social Sciences[3]	8.6	16.3	20.6	29.4
Arts[3]	7.9	15.9	11.3	19.9
Total	6.3	10.6	9.7	17.4

1) Excluding Professor II/Reader II positions.

2) The University of Trondheim only has clinical medicine.

3) At Tromsø: Social Sciences includes history and philosophy, Arts only languages.

Source: Ministry of Education 1980, unpublished material.

The professor II/reader II positions in medicine are part-time positions attached to the clinical part of the course. People in these positions have a dual role at the university teaching hospital in that they are part of the hospital staff while having a teaching position at the university. Data supplied by the Ministry of Education (1980) show that as many as 39 and 20 per cent of the scientific positions at the medical faculties in Oslo and Bergen respectively in 1979 were professor II or reader II positions against 13 per cent at the University of Tromsø.

With respect to recruitment of staff medicine, computing science, economics,and fisheries biology (at the Institute of Fisheries) seem to have had serious difficulties. In medicine the problem has primarily been associated with clinical medicine where the situation at times has been critical. In the autumn 1978, for example, more than half (i.e. eight) of the top positions at the Institute of Clinical Medicine were not filled (Rekrutteringsproblemer i klinisk medisin ved Universitetet i Tromsø 1978, p. 6). In spring 1980 the situation was much the same with no permanent appointments in seven of the top positions in clinical medicine (J. Gamnes, University of Tromsø, pers.comm. 1980). Within economics at the Institute of Fisheries the top position was vacant and two other positions were filled by temporary staff (O. Handegård, University of Tromsø, pers. comm. 1980). Within other subjects such as some of the languages, problems have been associated with a rapid turn-over of scientific personnel. Lack of continuity among the staff is seen as a considerable disadvantage as permanent staff invariably are burdened with more work. The pure and applied sciences generally seem to have had no recruitment problems and a considerable degree of stability among its scientific personnel.

3.4 STUDENTS

3.4.1 Student Numbers

The first students were admitted to the University of Tromsø autumn 1972, apart from those having been recruited earlier to participate in the planning of the University (section 1.6.2). As table 4 shows, their numbers have increased very slowly in the course of the 1970's; between 1976 and 1977 there was even a decline in numbers.

Table 4 Number of Students at the University of Tromsø 1972-1980.

	Autumn Term								
	1972	1973	1974	1975	1976	1977	1978	1979	1980
All students	406	871	1,065	1,294	1,371	1,294	1,412	1,584	1,693

Source: Institute for Studies in Research and Higher Education 1979:1, University of Tromsø 4/1979, 2/1980.

Compared to the other universities and similar institutions[1] the student numbers at the University of Tromsø have been very small throughout the 1970's (see table 15). In the autumn 1980, for example, the 1,693 students at Tromsø constituted only 4 per cent of the total student population of 40,660 at universities and comparable institutions. According to the official forecasts Tromsø should have 2,000 - 2,200 students by 1980. In 1980 the student number was 15 per cent short of having reached 2,000.

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[1] This does not include the regional colleges giving short-term vocational education.

The percentage of female students at Tromsø was 42 in the autumn 1979. This was comparable to the University of Bergen (42) but somewhat lower than the University of Oslo (47). (Institute for Studies in Research and Higher Education 1980, p. 55).

Table 5 shows the number of students divided according to discipline. As far as student number is concerned, the largest subjects were the social sciences (in Tromsø including history and philosophy), the pure and applied sciences, and medicine.

Table 5 Students Divided according to Field of Study. Autumn Term 1980.

Field of Study	Students		All Students
	Women	Total	%
Preliminary examinations	115	236	14.0
Pure and applied sciences	61	301	17.8
Languages and Literature	164	239	14.2
Social Sciences (including history and philosophy)	147	370	21.9
Medicine	129	287	17.0
Fisheries	3	87	5.2
Teaching Diploma Course	54	123	7.3
Teachers of Nursing Course	36	44	2.6
Total	709	1,687[1)]	100.0

1) 6 students are not included.

Source: University of Tromsø 2/80.

The Ministry of Education in Bill no. 142 considered the stipulated 2,200 students in 1980 to be divided according to discipline as follows:

	No.	%
Medicine	200	9.1
Pure and applied sciences	500	22.7
Humanities and social sciences	1,500	68.2
	2,200	100.0

The present distribution may hardly be compared with the Ministry's calculations since the University now includes more areas of study than proposed in Bill no. 142. Medicine, however, plays a more dominant role than envisaged by the Ministry. This is partly due to the fact that medicine includes also the preclinical part, partly because Tromsø has developed a special one-year medical course. If only the six-year medical course is considered, medicine at Tromsø in 1980 had a larger percentage of the students (about 15 per cent) than was the case at Oslo (7 per cent) and Bergen (9 per cent). As may be seen from table 5, the students taking the preliminary examinations in 1980 constituted as much as 14 per cent of all students that year. This is comparable to the Universities of Oslo and Bergen (Institute for Studies in Research and Higher Education, unpublished material).

3.4.2 Geographic Background of Students

The percentage of students from the North has been high throughout the 1970's (table 6). In the autumn 1980 72 per cent of all students were recruited from the North. The main recruitment area has in all years been Troms county where the University is located. The recruitment from Finnmark is small, only 10.7 per cent in 1980 compared to 39.8 and 21.4 per cent from Troms and Nordland county respectively.

Table 6 Percentage of Students at the University of Tromsø from the Three Northern Counties.

County	Autumn					
	1975	1976	1977	1978	1979	1980
	%	%	%	%	%	%
Nordland	22.1	23.9	20.9	18.9	20.8	21.4
Troms	42.7	40.5	40.5	41.4	40.7	39.8
Finnmark	12.1	9.8	10.0	10.8	10.9	10.7
Total N-Norway	76.9	74.2	71.4	71.1	72.4	71.9
Southern Norway	20.7	23.1	25.1	24.9	23.9	24.1
Abroad	2.4	2.7	3.6	3.9	3.6	3.8
Grand total	100.0	100.0	100.1	99.9	99.9	99.8

Source: University of Tromsø 1/76, 1/77, 1/78, 6/78, 4/79, 2/80.

The percentage of students from Southern Norway has increased somewhat between 1975 and 1980 and is now about 24 per cent. The foreign students have constituted a small group throughout the period.

The tendency for students to seek education at their local university applies also to other universities in Norway. Table 7 shows that the regional recruitment to the Universities of both Oslo and Bergen in 1980 was comparable to that of Tromsø, as was the recruitment from the county where the University is located (see map of Norway showing county boundaries, Appendix II).

Table 7 Geographic Recruitment to the Universities of Oslo and Bergen. Autumn 1980.

County/Region	University Oslo	 Bergen
	%	%
Oslo - Akershus	47.2	
Hordaland		40.3
Eastern Norway[1)]	72.6	
Western Norway[1)]		67.5
Total no. of students	19,101[2)]	7,657

1) Eastern Norway: Oslo, Akershus, Østfold, Vestfold, Telemark, Hedmark, Oppland, Buskerud.
Western Norway: Rogaland, Hordaland, Sogn og Fjordane, Møre og Romsdal.

2) Discrepancy between this table and table 15 is due to differences in registration.

Source: University of Bergen, Studentstatistikk 1980, p. 23, Anne-Wenche Ore, University of Oslo, pers.comm. 1981.

3.4.3 Students who have Graduated

A lower degree in Norway usually involves four to five years of study, a higher degree six to seven years (see Appendix III). For reasons of registration and data-processing the University of Tromsø as yet supplies no regular statistics on graduates with a lower degree.

Since 1975 the University has observed that a large proportion of its students has left after only one to three terms of study. In spring 1978 82 per cent of the new students stated on their matriculation forms that they were only going to take the preliminary examinations (61 per cent) or one or two individual subjects (21 per cent), thus not the whole range of subjects leading to a lower degree. The comparable percentage for the autumn term 1978 was 63 (University of Tromsø statistics). Similar developments have been observed at the other three universities and at Swedish institutions (interview with V. Fagernes, Uniternt 5/79, p. 2).

Data supplied by the University in a recent survey of labour market conditions for graduates from the spring term 1979, illustrate this pattern of study. Among the 181 students who graduated that year, 48 per cent did so after completing individual examinations (i.e. with no final degree), while 35 per cent left with a higher degree, and 17 per cent with a lower degree (Universitetet i Tromsø 1980B).

The number of students who have graduated with a higher degree, has been rather small in all years (table 8). A considerable increase may be observed in 1979, however, due to the fact that the first group of medical students (39) graduated in the spring of that year. Even if this group is excluded, there has been a steady increase in the number of graduates since 1977 (see also section 3.8.5).

Table 8 The Number of Students who have Graduated from the University of Tromsø with a Higher Degree.

	Year of Graduation							
	1972-73	1974	1975	1976	1977	1978	1979	1980
No. of graduates	8	9	25	26	17	27	78[1]	85

1) Includes the first group of 39 graduates in medicine.

Source: Institute for Studies in Research and Higher Education, unpublished data based on statistics supplied by the University of Tromsø.

3.5 THE SYSTEM OF GOVERNMENT

A decentralized, democratic system of government became a goal of prime importance in the goal-formulating period in the University. Staff at the University today while claiming that a spirit of democracy prevails, also consider the present system time-consuming.

The body which originally was considered of fundamental importance in the governing system introduced at Tromsø, has lost much of its importance. Thus the Senate which is the highest organ of government, in practical terms plays a rather insignificant role compared to the Executive Board. The Board has gradually taken over as a policy-maker and executer and become the more important of the two. This is reflected in the fact that the Senate meets far less frequently than was originally intended; the original goal stated monthly meetings. The Senate now meets only four times per year, basically to approve matters prepared by the Board. Staff at the University claim that the Senate plays an important role mainly in cases of dispute within the Board and in controversial matters; unanimous proposals from the Board are not changed by the Senate. Still, the Senate gives the framework and general guidelines in long-term planning, and as a forum in controversial matters it seems justified. With respect to the budget its influence is felt in the allocation of positions. Nevertheless, the opinions has been expressed that the Senate has become superfluous, and that its functions could be taken over by the Board.

The Senate has 58 representatives in addition to Rector who is elected from among the professors and readers of the University. The representatives are elected from four groups within the University: academic and non-academic staff, fellows, and students. The three Northern counties appoint two representatives each. The academic staff have 22 representatives, fellows 5, the non-academic staff 9, and the students 17 representatives. Within each group the members are elected from the different institutes and departments. The Executive Board with rector and 12 representatives is elected from among the members of the Senate, and is composed as follows: 7 representatives of the academic staff (including fellows), 2 of the non-academic staff, and 3 of the students. Rector is chairman of both the Senate and the Board; a separation of power is thus not applied. The Board has no representatives from the region.

The University is divided into 11 institutes or departments, three of which constitute the School of Medicine, i.e.:

Institute of Medical Biology
Institute of Clinical Medicine } School of Medicine
Institute of Social Medicine
Institute of Mathematical Sciences
Institute of Biology and Geology
Institute of Social Sciences
Institute of Languages and Literature
Institute of Fisheries
The University Museum
Department of Practical Education
Course for Teachers of Nursing

The Auroral Observatory and the Museum are the only scientific institutions existing in Tromsø prior to the establishment of the University, that have been incorporated in the University. The Observatory has since 1972 been part of the Institute of Mathematical Sciences. The Museum was incorporated in 1973 and is now as an independent institute.

In addition there are three other administrative units, i.e.:

The University Library
The EDP-centre
The Marine Biology Station

The system of faculties has not been introduced at Tromsø. Thus the University in principle has a two level organization: central administration - institute, instead of the traditional model of central administration - faculty - institute. The administrative units within the institutes are the institute council, board, and the secretariat. The same groups are represented on the institute council as in the Senate and on the Board. The Central Administration, headed by the Director, coordinates the University business. This administrative unit also functions as the secretariat for the Senate and the Executive Board.

The University has various standing committees, such as the Technical Budget Committee and the Committees for Users of Buildings at Breivika, in 1980 a total of six, one for each stage of building. No special Research Committee has been organized. Interesting and a unique case in Norwegian administrative practice has been the University's Department of Planning and Development. It has had status as a common department between the State Directorate of Public Construction and Property and the University. The Department was established among other things to secure the use of local experts in the planning and construction of the University buildings at Breivika (see figure 2), and to ensure the influence of all members of the University on the physical planning process; thus the organization of the above mentioned Committees for Users of Buildings at Breivika.

During the goal-formulating period the influence of the students on all governing bodies was essential. Today the students at Tromsø, as at other universities, are more disinterested in their administrative tasks. As examples may be mentioned that the students at each institute normally are able to find only one person willing to be nominated for each position on the Senate or Board. At the elections to the Senate only about 10 per cent of the students participate. Student representatives in the Senate take turns as representatives on the Executive

Board. Thus there is little continuity in their representation on the body that is considered the most powerful within the University. On the Board they seem to play a more passive role while in the Senate they are active in debates on student related matters. This might reflect the nature of the business handled by the two bodies. Matters considered by the Board generally require detailed knowledge of university business. This is not easily acquired, particularly when a rotation system is used among the representatives.

3.6 AREAS OF STUDY

The University of Tromsø should concentrate on areas of study within the arts, pure and applied sciences, social sciences, medicine, and after 1980 dentistry. It should build on subjects available in Tromsø at the various established institutions. In the original proposals (Bill no. 142) fisheries were not included (see section 1.3).

The Auroral Observatory and the Museum are now incorporated into the University. With respect to other institutions of long standing such as the Regional Hospital, the Holt Experimental Farm, the Marine Biology Station, and the Åsgård Hospital, they cooperate with the University in various ways (see text to figure 2). The Observatory has well-established scientific milieus which are internationally recognized. The research centre at Ramfjord, 32 km south of Tromsø, will be a European centre for ionospheric research. The EISCAT project (European Incoherent SCATTER facilities) centred there, is, for example, an international project between Great Britain, West-Germany, France, Finnland, Sweden, and Norway. The Norwegian Research Council for Science and the Humanities as early as 1966-67 provided funds for the Observatory expecting the University to carry developments further. The Regional Hospital has developed considerably as a result of being a university clinic. Provisional buildings have been added to the old hospital to accomodate the School of Medicine. The building of a new hospital has, however, not yet started, and is not expected to be completed until the 1990's.

The areas of study included at the University of Tromsø are partly reflected in the list of institutes/departments given above. However, for a more detailed analysis the individual subjects and the levels at which they are taught are listed here (based on Universitetet i Tromsø 1980A).

Examen philosophicum

Preliminary examinations in the history of philosophy, practical philosophy and scientific theory are compulsory for all students at the University.

Medicine

The School of Medicine offers different types of medical education and has in this respect been a pioneer in Norway. Of prime importance is the full six-year medical course leading to a degree in medicine. This incorporates both the preclinical and clinical part of the course in an integrated way. The School also offers a one-year course in basic medicine. This is intended either for professional people with a non-medical background, who work in different areas of the health service, or as part of a lower degree for students taking social sciences or science planning (see Appendix III). This course is unique in Norway. Both courses operate a *numerus clausus* and admit 40 students per year each. In addition courses for public health nurses and a two-year course for teachers of nursing are for the first time in Norway included in a university (Nordøy 1978, p. 17).

The Pure and Applied Sciences

These subjects have been incorporated in two different institutes. The Institute of Mathematical Sciences offers pure science subjects, and the Institute of Biology and Geology the applied sciences as follows:

Institute of Mathematical Sciences:

- Computing Science
- Physics
- Chemistry
- Mathematics/statistics

A higher degree may be taken in the above subjects, although in a limited number of specialities.

Institute of Biology and Geology:

- Geology
- Biology
  - Aquatic biology
  - Terrestrial ecolocy (botany and zoology)
  - Plant physiology/microbiology

A higher degree is offered in all fields, but in a limited number of specialities. In biology a higher degree may also be taken at the Institute of Medical Biology and the Institute of Fisheries.

Social Sciences

The Institute of Social Sciences at Tromsø also incorporates subjects normally included in the Faculty of Arts at the other universities. The subjects traditionally called the social sciences, education, sociology, political science, and psychology, are differently organized with emphasis on an integration of the various subjects into a common course (see section 3.7.1). As a result no individual disciplines may be listed; the work is organized in research groups within special fields.

The Institute of Social Sciences thus includes:

A Social Science Section comprising:

- Research group on education and the school system
- Research group on social planning and local society
- Research group on Sami studies and ethnic relations
- Research group on social policy

History with Archeology
Philosophy
Public Administration and Organization

A higher degree may be taken in all the above mentioned fields of study except Public Administration and Organization which is a one year course.

The Arts

The Institute of Languages and Literature is, as the name denotes, primarily concerned with the teaching of languages. The following subjects are covered by the Institute:

Linguistics and phonetics
English
Finnish
Classical languages
Nordic languages
Russian
Sami language
German

Of these subjects only English, Norwegian, and German could in 1980 be taken as a higher degree.

Fisheries

The education within fisheries is organized in a University College of Fisheries offering courses at four different institutions of higher education, i.e. the University of Bergen, the Norwegian School of Economics and Business Administration in Bergen, the University of Trondheim, Institute of Technology, and at the University of Tromsø, Institute of Fisheries. At Tromsø a complete five-year professional course has been organized (from the autumn 1972) which may be compared with the professional course in, for example, engineering given at the Institute of Technology. The course operates a *numerus clausus* and admits about 20 students per year. The Institute works in close cooperation with the Research Institute for Fisheries Technology also at Tromsø (St.prp. nr. 1, 1979-80, p. 144). Courses for a higher degree are given for students from outside the Institute wishing to specialize in the field of fisheries. The Institute gives courses in the following subjects:

Foodstuff-biology
Resource biology
Economy of fisheries
Organization of fisheries/law

The University Museum

An important part of the Museum's work concerns the spreading of information and knowledge through exhibitions, lectures etc. The Museum of Tromsø is a well-known and popular institution in Northern Norway and for the University an important point of contact with the local people. The Museum is comprised of the following departments:

Archeology
Recent cultural history
Cultural history
Sami-ethnography
Botany
Zoology
Geology
Marine biology
Public relations

Department of Practical Education

The course lasting 17 weeks leads to a teaching diploma, which qualifies university graduates for teaching in the upper part of primary and in secondary education. At the University of Oslo this course is not part of the University.

3.7 INNOVATION IN EDUCATIONAL METHODS

3.7.1 Interdisciplinarity in Teaching and Research

Interdisciplinarity was considered an important goal for the University of Tromsø. The organization of relatively small institutes instead of the large traditional faculties was seen as an important way of securing contact and cooperation among the different subjects. Interdisciplinarity was not clearly defined in the original goal (section 2.2), and members of the University find it a rather diffuse concept which is difficult to implement. The concept is, however, seen as intriguing and is much discussed. Some will claim that such discussions remain rather abstract. Nevertheless, examples of interdisciplinarity implemented in different ways in teaching and research may be observed within the University. The degree of interdisciplinarity or disciplinary cooperation is, however, not easily measured. Here the concept will be described in relation to the institute model and teaching, structure of courses, and research.

The Institute Model and Teaching

The institutes consist of relatively similar subjects. Thus the Institute of Languages and Literature includes only languages; the Institute of Mathematical Sciences, pure science subjects while the applied sciences form the Institute of Biology and Geology. The Institute of Fisheries in itself forms a professional school, and the Institute of Social Sciences includes history, anthropology, and philosophy which also in other parts of the educational system are considered to form a natural unit (e.g. within secondary education). At the other universities, however, both philosophy and history are part of the Faculty of Arts. Although medicine is divided into three different institutes, this subject is less sub-divided administratively at Tromsø than at the medical faculties elsewhere. At the Institute of Languages and Literature the different parts of the various subjects such as literature and language are integrated physically in order to promote cooperation among subjects.

Staff at the University emphasize that the institute model does promote cooperation. The work on the institute council and board is said to play a coordinating role in this respect. At the Institute of Languages and Literature series of multi-disciplinary lectures have been given, and these are said to be the result of administrative and physical integration among the subjects. Nevertheless, the individual subjects have formed administrative sections. Part of the budget used for running costs is in several institutes sub-divided for the use of the individual sections. Thus in some respects the different institutes may be said to function as traditional faculties.

The Institute of Social Sciences has much more of interdisciplinary characteristics in its organization than, for example, the Institute of Languages and Literature. Although the Institute consists of specific subjects, it is only partly divided according to the traditional disciplines. History and philosophy exist as separate sections. Within the social sciences, however, an interdisciplinary approach prevails resulting in an organization into four "research and study groups" which deal with closely related topics. These were intended to be multi-disciplinary with respect to staff but are only partly consisting of teachers representing different disciplines. Two of the groups, the one on "Sami studies and ethnic relations" and the one on "education and the school system", consist only of anthropologists and educationalists respectively. Although staff within the social sciences represent different disciplines - education, sociology, political science, anthropology, psychology, law - cooperation has resulted in an interdisciplinary degree course. Furthermore, cooperation in teaching among the social sciences and history and philosophy has resulted in seminars and common teaching programs.

Examples of inter-institute cooperation in teaching may be found between the School of Medicine and the Institute of Social Sciences, and between the latter and the Institute of Fisheries. However, the teaching provided by the Institute of Social Sciences in sociology and psychology for the medical course does not seem to have been without problems, a fact which is recognized both at the School of Medicine and at the Institute of Social Sciences. At the Institute of Mathematical Sciences the group in statistics has had much cooperation with biology, medicine, and fisheries, the group in applied mathematics with the physisists. The School of Medicine, in contrast to the medical faculties elsewhere, gives courses for a higher degree in biochemistry and physiology. Likewise, the Institute of Fisheries gives courses for a higher degree for students from the Institute of Social Sciences, and the Institutes of the Pure and Applied Sciences. Regrets have been expressed, however, at the lack of contact among subjects such as, for example, the Nordic languages, history, and the social sciences, where a fruitful cooperation originally was envisaged.

Structure of Courses

The courses that are known for a high degree of interdisciplinarity are *medicine*, *fisheries*, and the *social sciences*. The aim for these courses was to provide an education that would qualify for work in a number of fields rather than a specialist type of education with limited application. Hereby one hoped to meet demands in the region for people with a fairly general education.

In *medicine* the teaching is organized according to the "organ model system" whereby different medical phenomena and problems are illuminated simultaneously through the different medical disciplines. In this respect the course at Tromsø differs from those at the other medical faculties in the country. Of prime importance is the integration between the preclinical and clinical parts of the course. This constitutes a break with traditional teaching in medicine, as does the integration of theory and practical service, requiring students to work for half a year during the course in a hospital and general practice in the region. The students also have to write a thesis. Apart from creating an integrated type of course one has also wished to motivate students for general practice. In line with an interdisciplinary approach sociology has been included, although not very successfully, as mentioned above.

The professional course in *fisheries* at Tromsø is new in Norway. Prior to the organization of this course rather specialized courses in fisheries biology, economics of fisheries, and technology were given at the University of Bergen, the Norwegian School of Economics and Business Administration (also in Bergen), and the Institute of Technology (University of Trondheim). At Tromsø a professional, multi-disciplinary course has been organized at the Institute of Fisheries. The course includes traditionally separate areas of study from the biological sciences, chemistry, social sciences, and economics. It consists of two main areas of study, i.e. biological subjects and economics/sociology, while technology functions as a bridge between these two (Universitetet i Tromsø 1980A, p. 159). In teaching and research emphasis is put on the *relationship* between various subjects and problems.

By the course in the *social sciences* one aimed to organize something new. The course leads to a lower degree after about 4½ years and a higher degree after an additional 2 years of study (see Appendix III). The course progresses according to a particular system, although the various subjects and examinations may now be taken in a different sequence. Figure 3 gives a graphic description of the Tromsø model in social sciences. Separate examinations are taken after the first and second year. The first year consists of an interdisciplinary course

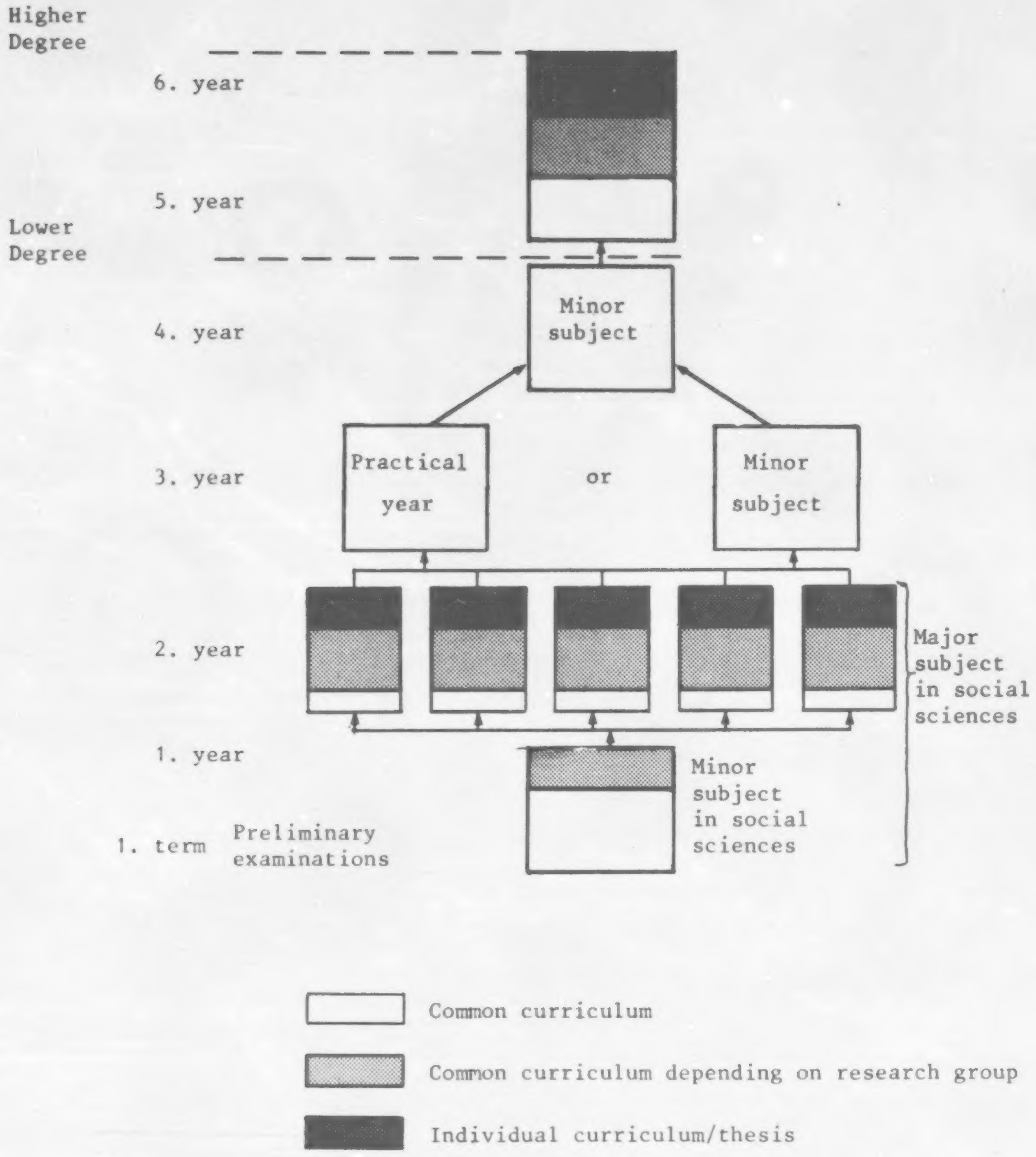

Higher Degree
6. year
5. year
Lower Degree
4. year
Minor subject
3. year
Practical year
or
Minor subject
2. year
Major subject in social sciences
1. year
Minor subject in social sciences
1. term
Preliminary examinations
Common curriculum
Common curriculum depending on research group
Individual curriculum/thesis

Figure 3 Structure of the Course in Social Sciences at the University of Tromsø leading to a Higher or Lower Degree.

aiming to integrate into a common unit various aspects of the individual disciplines constituting the social sciences. Teaching during the second year is primarily provided by the different research groups. During this year emphasis is also put on the research which is being carried out at the Institute, and problems related to interdisciplinary research. Students may specialize in disciplines such as sociology (Universitetet i Tromsø 1980A, pp. 315-317). The two other subjects chosen for the lower degree (third and fourth year in figure 3) must be recognized by the Institute. One of these subjects may be substituted by a year of practical work in the public health sector or administration. Structurally the Tromsø model in social sciences varies from the traditional system leading to a lower degree by consisting of one major subject which takes two years (four terms) of study and two minor ones; furthermore, one subject may be substituted by a year of practical work. Originally the fourth year in the model constituted the writing of an extensive essay and a common curriculum within the social sciences.

Research

With respect to *interdisciplinary research* there seems to be no official research policy to promote it, although the Institute of Social Sciences puts emphasis on *general* qualifications in the social sciences in its announcements of vacant scientific positions. However, this requirement is not easily met since the applicants normally have obtained their qualifications in discipline-oriented milieus. The Research Committee proposed by the Goal Formulating Committee has not been established.

Examples of interdisciplinary projects may be found if one defines these as involving research-workers representing more than one discipline. A survey from 1977 of research projects within the arts, shows that out of the 58 projects listed by the University of Tromsø, 3 may be classified as interdisciplinary (Humanistisk forskning 1977).

A more recent survey of projects concerned with "health and social policy" reveals a high proportion of interdisciplinary projects at Tromsø since 5 of the 11 projects listed, may be termed interdisciplinary. The others dealt with interdisciplinary problems (Institute for Studies in Research and Higher Education).

No attempt has been made here at providing a comprehensive picture of interdisciplinary research at the University. Tentatively it may be suggested that such projects are more common within the social sciences and medicine than within the arts and pure and applied sciences. The impression prevails, however, that such research is more an exception than a norm.

3.7.2 Innovation in Examination Procedures and Teaching

The only institute that has completely abolished marks at examinations, is the School of Medicine. During the six-year medical course students may choose continuous evaluation, i.e. to sit examinations after the various courses, for which no marks but educational feedback on performance is offered. At the three major examinations - after one and a half, four, and six years of study respectively - no marks are given, only a pass or fail. A pass degree with honours has been discussed as an alternative, but has not been introduced. As yet the other medical faculties have not adopted the Tromsø system. Experiences of the Tromsø graduates in the employment market is likely to influence opinion on this matter. The first medical graduates from Tromsø are currently doing compulsory medical service and have hardly tested the reactions of future employers.

Generally speaking the institutes at Tromsø follow the same marking practices and examination procedures as the other universities. With respect to teaching, seminars and teaching in small groups are used. This seems to be as much the result of favourable student/teacher ratios as an active educational policy. In the social sciences, however, one makes extensive use of topic-oriented teaching whereby various topics receive concentrated attention through lectures over a period of one to two weeks. In this respect the social sciences differ from other courses at Tromsø and elsewhere.

3.8 THE REGIONAL RELEVANCE OF THE UNIVERSITY

The regional relevance of the University may be seen from two angles:

a) the direct role it chooses to assume with respect to, for example, recruitment of students, subjects, recurrent education, research;

b) its importance indirectly for the supply of academically qualified personnel, growth of population, the local community.

3.8.1 Recruitment of Students

The geographic background of students has been given in section 3.4.2, table 6. A large proportion is recruited from the Northern region, 72 per cent in 1980. With respect to medicine the University actively seeks to give priority to students from Northern Norway. Medicine operates a *numerus clausus* at all universities in the country, and there is fierce competition for available places. At Tromsø 40 students are admitted each year. Now half of these places is allocated to students from Northern Norway.

3.8.2 Subjects

In the original goals emphasis was put on subjects which would educate the type of academic personnel most needed in the region. There are many examples of regional relevance with respect to subjects. The six-year medical course has been designed specifically to motivative and qualify students for work as general practitioners in the region. The School of Medicine also offers a one-year medical course that may be taken as one of the subjects for a lower degree in social sciences or by people working within the health and social sector as continuing education. The School for Teachers of Nursing was established to provide the various professional schools in the North with qualified teachers. It is a recognized fact that many of these schools could not fill available places for students because of lack of teaching staff (Uniternt 1979A, p. 8). The inclusion of this type of education in the university system is a reflection of a global approach to the regional health care system. The Medical School at Tromsø emphasizes the need to be involved as a partner in the regionalized health care system, partly be exposing their students to problems outside the University Teaching Hospital as an integrated part of their training (see section 3.7.1). Staff from Tromsø also regularly travel in the region acting as consultants for local hospitals and primary health care centres (Nordøy 1978, p. 15).

The course in fisheries was started to develop a general education which would qualify for many sectors within the fishing industry. This is an industry of prime importance to the North which has always been short of people with a professional education. Within the languages emphasis has been put on subjects that are natural or indigenous to the region. For example French is not offered at the Institute of Languages and Literature while the Sami language, Finnish, and Russian are included, all of which are directly relevant to an extended Northern region. Within the Nordic languages (i.e. the study primarily of Norwegian but also Swedish and Danish language and literature) students are encouraged to stress material and problems relevant to Northern Norway (Universitetet i Tromsø 1980A, p. 356), and literature from the region is included in the curriculum. Additional languages at the Institute such as English and German are offered primarily because they are important for the school system and generally sought by a large number of students.

The choice of subjects within the pure and applied sciences has also been influenced by the needs of the school system. Generally speaking, however, these subjects are as much global in their approach as regional. Auroral physics is regionally relevant in the sense that the University utilizes a unique location, but the research carried out is global in perspective. The biological sciences and geology are relevant to the region in their emphasis on teaching and research material from Northern Norway. A research department for arctic biology is currently being developed. Staff and students at the Institute of Biology and Geology and the Institute of Medical Biology are the users of this department (Uniternt 1980, p. 6).

Also within the Institute of Social Sciences subjects are regionally relevant in their emphasis on topics and material from Northern Norway. Northern archeology is, for example, given a central position within archeology as is the history of Northern Norway and the Sami history and culture within Norwegian history. In the social sciences emphasis is put on the acquisition of an understanding of social conditions in Northern Norway. One of the four research groups is especially concerned with Sami studies and stresses the "national state and minorities".

These subjects also emphasize the *general* implications of local phenomena. The comparative aspects are stressed. Local problems are used to illustrate scientific models and methods. People within the University are well aware of the danger of becoming provincial unless the principle of generality is adhered to.

The University Museum (Tromsø Museum) was established in 1872. By its research and classification within, for example, Northern botany, zoology, archeology,and ethnography it has a long tradition in subjects relevant to the region. While continuing such work, the University Museum also plays a unique role within the University as a means of contact between the University and the local people, and in transmitting knowledge.

In order to meet local demand from people not able to attend the University as regular students, courses in some subjects are given in the districts. In 1979 the University offered data processing, mathematics, German, and history in this way.

3.8.3 Continuing Education

In 1978 all universities were allocated funds over the state budget for the provision of continuing education in their respective regions. At Tromsø these funds were increased by the University through reallocations on its own budget. The different institutes have used such funds to give short-term courses in various parts of the region. The annual reports from the individual institutes have special sections dealing with such activities. Thus have courses in English literature, German, and Finnish language and culture been given by the Institute of Languages and Literature. The Institute of Social Sciences has likewise arranged courses in local history and archeology, and seminars for psychologists in cooperation with the local division of the Norwegian Psychologist Society. The Institute of Fisheries has given a number of courses in economics and system of organization for the advisory service within the fishing industry. In 1979 the Institute concentrated its activities primarily on "safety and rescue equipment". The School of Medicine annually offers about 30 short-term, postgraduate courses in various fields of medicine for health personnel. About 50 per cent of these courses are specifically designed for physicians in the primary health care service (Nordøy 1978, p. 18).

3.8.4 Research

There are many examples of regionally relevant research projects within the University. No attempt has been made here at giving a comprehensive picture of the amount of regionally relevant compared to other types of research. However, two surveys of research projects within the arts and the field of "health and social policy" respectively provide some data (section 3.7.1).

As many as 25 (43 per cent) of the research projects listed within the arts utilized material from Northern Norway. Six projects (10 per cent) were directly concerned with current problems in the region (Humanistisk forskning 1977). Within "health and social policy" 7 of the 11 projects listed by the University of Tromsø, dealt with problems of direct relevance to Northern Norway (Institute for Studies in Research and Higher Education). An investigation carried out by the Department of Planning and Development in 1976 (see Solhjell 1977, p. 132) also shows that individual and also groups of research workers frequently worked on projects that were the results of a deliberate consideration of what would be relevant for the region. Thus 70 per cent of the 81 research workers who answered a questionnaire from the Department, claimed that at least one of their three most important projects had regional relevance. However, only a few of these projects were carried out in cooperation with groups or industries wishing to utilize the results.

As examples of regionally relevant projects may be mentioned the Lofoten-project within the Social Sciences aiming to develop a type of primary school that takes into consideration aspects of the local environment. Within fisheries the fish offal project has become well known, resulting in the offal being used for animal fodder. The Institute of Social Medicine is currently analysing conditions that influence people's sleep during the "dark" part of the year. Because of the remarkably high incidences and mortality of coronary heart diseases in Troms and Finnmark, the University has carried out large-scale screening studies on coronary risk factors. The project on the physician manpower market has special regional relevance in its investigation of factors which generate and sustain the shortage of medical doctors in Northern Norway. The Institute of Biology and Geology does research on parasites in Norwegian reindeer, a project of direct relevance to the reindeer production.

On the whole regionally relevant research seems to originate partly as a result of the personal interests of various members of staff, partly as a result of the nature of the subjects. The special research committee which should deal with interdisciplinary research of direct or indirect relevance to Northern Norway has not been established. Neither has the council which should secure contact and cooperation between the University and the region, although the region is represented in the University Senate.

3.8.5 The University as Supplier of Academically Qualified Personnel

During the decision process to establish a university in Tromsø the prospect of the University as a supplier of academically qualified people for Northern Norway was of fundamental importance. This aspect may indeed be considered an indirect effect of the University since it is stated nowhere that students from the University of Tromsø have a duty to serve in the North once they have graduated. In fact the first medical students who graduated in spring 1979, deplored that they could not choose a district or hospital in the North for their compulsory year of practice.

The 1979 survey carried out by the University shows that 67 per cent of the students who left the University in the spring of that year, were working in Northern Norway six months after graduation (see section 3.4.3). These findings are confirmed by statistics on individual groups of graduates such as teachers of nursing (Uniternt 1979A, p. 8) and graduates in fisheries (Norges Fiskerihøgskole 1980, pp. 54-55). Of students who graduated between 1974 and 1979 with a higher degree in arts, social sciences, and pure and applied sciences, 86 per cent had jobs in Northern Norway six months after graduation. As many as 81 per cent of these were employed in Tromsø, 6 per cent in Bodø, the largest city in the county of Nordland, and only one person in Finnmark (Institute for Studies in Research and Higher Education). The 1979 University survey showed that 43 per cent of the graduates were working in Troms county.

Both the 1979 University survey and the statistics on graduates with a higher degree show that the large majority of the graduates (about 88 per cent) were employed in teaching or research, i.e. in the public sector. Among graduates with a higher degree as many as 51 per cent were recruited by the University of Tromsø itself. The majority of those who remained at the University, were graduates in the pure and applied sciences. Out of a total of 38 graduates in these subjects, 61 per cent were working at the University six months after graduation. Graduates in the arts and social sciences have stayed on at the University to a smaller extent, 40 per cent of a total of 35 candidates.

On the whole Northern Norway has had a net gain of academically qualified manpower, i.e. larger percentages have remained in the region after leaving the University than originally came from that part of the country. Among the graduates with a higher degree working in Northern Norway after graduation, only 54 per cent originally came from the North.

It is important to keep in mind, however, that these results are based on the employment situation only *six* months after graduation. Several of the students working at the University of Tromsø, for example, were employed on a temporary basis as research assistants or fellows. The University survey is based on graduates from one term only. The results should therefore be treated with caution, especially with respect to long-term effects.

3.8.6 Growth of the Population in the Region

Large numbers of people left the Northern region in the 1950's and 1960's (section 1.2). Table 9 shows the population in the three Northern counties at various points of time during the 1960's and 1970's.

Table 9 Population[1] in Nordland, Troms, and Finnmark 1960-1979.

County	Year 1960	1967	1970	1977	1979
Nordland	237,200	244,200	240,500	242,800	242,900
Troms	127,500	132,400	136,200	144,300	145,300
Finnmark	72,000	75,600	75,800	79,400	78,700

1) Numbers have been rounded off to the nearest hundred.

Source: Statistical Yearbooks 1967, table 6, p. 6, 1977, table 6, p. 6, and 1979, table 5, p. 6. Central Bureau of Statistics 1974, table 8, pp. 62-65.

In Troms and Finnmark counties the population has steadily increased, in Troms from the late 1960's, in Finnmark during the 1970's although there has been a decrease in Finnmark between 1977 and 1979. Nordland, on the other hand, had a decrease by about 3,700 people between 1967 and 1970, and the population has not yet reached the size from 1967.

It is, of course, difficult to ascribe increases in population in a wide geographic area to the effects of the University. The University is relatively young, and its indirect effects on the region are not easily documented. Needless to say developments in various sectors of industry are important with respect to keeping the people in the region. In the case of Troms, however, it is worth noting that the "turning of the tide" took place at the time when the University was established.

3.8.7 Impact on the Local Community

A further analysis of the effects on the municipality of Tromsø seems relevant at this point. The population has increased considerably since 1968 when the University was established, from about 36,100 in 1968 to about 45,400 in 1979. However, this increase denotes no dramatic change as the population had been growing steadily throughout the 1960's. In fact the average growth of the population was 2.7 per cent in the years 1965-1969, before the impact of the University was felt, while it dropped to 2.4 per cent in the period 1970-1974, which was an important period for the physical establishment of the University (Hansen 17 Sept. 1977). The growth of the population in Tromsø may therefore not easily be ascribed solely to the arrival of the University.

In other respects the impact of the University on the city is considerable. For one thing the University is a large place to work, also in a regional context, with its 617 permanent positions. The University also has indirect effects on the labour market. Solhjell (1977, pp. 56-57) stipulates that every new scientific position at the University directly and indirectly causes a population increase of 27 (i.e. students, non-scientific positions at the University, local employment outside the University, and people not in paid employment), although this figure is considered high by some people. At the regional hospital the number of positions was doubled from 500 in 1969 to one 1000 in 1977 as a result of it becoming a university teaching hospital. As a place of work the hospital is thus about twice the size of the University (Hansen 17 Sept. 1977). Likewise is the Tromsø Students Welfare Organization a large employer. This organization is, among other things, responsible for the building of student flats, which are located at four different places in the city.

The University is different from other places of work in Tromsø because a large percentage of its staff and students are imports into Tromsø. In 1980 80 per cent of the student body came from outside Tromsø city (University of Tromsø 2/80). In 1973, one of the busiest years in the development of the University, as much as 64 per cent of the net migration into Tromsø consisted of people from Southern Norway or abroad (Hansen 17 Sept. 1977). The fact that local people in many cases consider the University bigger than it really is, may be ascribed to the easy identification of University staff and students because of their non-Tromsø dialects.

Throughout the 1970's housing has been a problem in Tromsø. Shortage of houses has often been blamed on the arrival of the University. However, rapid expansion of the city prior to the establishment of the University resulted in pressure on the housing marked. This caused problems that were evident when the University was established, although they were probably increased by the added pressure represented by the University. It is recognized that the University also stimulated the building-process, by insisting that adequate accomodation was necessary in order to attract staff and students to Tromsø. Favourable treatment of University people in the initial phase was therefore inevitable should there be a university at all. As a rule the University has been assigned a certain proportion of the housing in a particular area. This has resulted in criticism being raised that University people have been privileged in the allocation and buying of housing. They have also been accused of grouping themselves in certain parts of town, although this criticism seems to have subsided. The University staff have probably become more integrated into the community. Some of them have moved within Tromsø, resulting in a more scattered University population. For the students the picture is somewhat different since they in Tromsø, as in other university towns in Norway, primarily live in specially built student accomodation.

The University may also be said to have brought state capital to Tromsø amidst local poverty. Hansen (17 Sept. 1977) describes it as a "millionaire in a rural shop". The University has had resources to develop, for example, common land into parklands, which was only a dream earlier. The high-quality work delivered by the Department of Planning and Development at the University has created good-will and relieved the city's own planning departments.

Whether the University is costly for Tromsø is another matter. The building of a new regional and university teaching hospital is obviously an expensive project for the whole region. The final costs involved seem unforeseeable at this point. Within Tromsø roads pose a problem for the development of the campus at Breivika. However, the city also has considerable tax revenue from the University employees, in 1977 amounting to 15-20 million N.kr.

3.9 CONCLUSION

A primary goal for the University of Tromsø was its regional relevance. Once the regional aspect was coupled with the establishment of a new medical faculty, priority was given to Tromsø instead of Trondheim, despite considerable opposition from the medical expertise. Teachers and students came to Tromsø with radical ideas for the new University, and with the intent of doing something for Northern Norway.

Inhabitants of Troms0, however, have had mixed feelings about the new institution. Originally it was greeted with great enthusiasm. Then came the reaction, and the University was by many made a scapegoat for problems prevailing in Troms0 before the University was established. Today the local people might blame the University for having changed Troms0 too much. Externally they defend it, however, and the University has in the eyes of many people become a natural part of the city. Critics who claimed that a University so far North was bordering on the impossible, have had to reconsider their opinion. The University is today a viable institution in many ways. However, the shortage of students, problems of recruiting scientific staff for the top positions in certain disciplines, as well as a quick turn-over of personnel in some subjects may be considered worrying aspects.

The present state of the University in relation to the original goals may briefly be assessed as follows:

1. The University has got more positions than originally aimed for, particularly concerning non-scientific staff. By 1980 it had 268 scientific and 325 technical/administrative positions (not including positions at the Institute of Fisheries), as well as 17 part-time scientific positions. Since student numbers are below the stipulated target, the student/teacher ratios at Troms0 are very favourable compared to the other universities. Partly as a result of the shortage of students, the running costs per student are two to three times higher in individual fields of study at Troms0 than at the other universities. The University has serious problems, however, with the recruitment of teachers for the top positions in clinical medicine, economics at the Institute of Fisheries, and computing science. Other subjects are hampered by continuous replacement of staff.

2. With student numbers of 1,693 in 1980 the University was 15 per cent short of having reached 2,000, which was the lowest number proposed by the Ministry of Education as a reasonable target for 1980. The student numbers at Tromsø in the autumn 1980 constituted 4 per cent of the total student population at universities and comparable institutions. Thus Tromsø has extended the facilities for higher education more in geographic terms than in terms of student numbers. The students are primarily recruited from Northern Norway; in the autumn 1980 72 per cent came from Nordland, Troms, and Finnmark. However, the regional recruitment at Tromsø is no higher than at the Universities of Oslo and Bergen, which shows that students tend to seek education at their local university.

3. A democratic system of government has been developed but does not function as originally intended. The democratically elected Senate which was considered of basic importance to the system, seems to have lost much of its significance. Some members of the University find the system of government laborious. As at other universities in the country, the students at Tromsø are less active in university politics now than in the beginning of the 1970's. Their representatives in the Senate take turns as representatives on the Board. Representatives from the region find that they have little influence in policy matters through their representation in the Senate. All in all the democratic aspect of the governance structure may be said to be weakened compared to the original goals.

4. All areas of study as proposed in Bill no. 142 are covered by the University. However, dentistry, proposed for the period after 1980, is unlikely to be introduced. Within the social sciences plans for a course in economics are currently being discussed. This is likely to be influenced by the further developments within the regional college system where plans are being worked out for a

new college in Southern Troms. Economics is, however, part of the course in fisheries. Additional areas of study have been included such as fisheries and a course for teachers of nursing. The original decision with respect to medicine was changed to include also the preclinical part during the period of the Interim Council.

3. The six-year course in medicine, the courses in the social sciences and fisheries respectively have managed to keep the fences between disciplines low. Medicine and the course in fisheries are really multidisciplinary courses which emphasize a common goal in their teaching of different subjects. The medical course at Tromsø is different from the medical courses elsewhere in the country by its integration of the preclinical and clinical parts and of the various subjects. It also deviates from the more traditional courses in its emphasis on medicine in relation to general practice. In the social sciences an integration of the various disciplines seems to have succeeded. Apart from history and philosophy which form separate units, the social sciences have been organized into research groups across disciplinary boundaries. These groups are, however, more permanent and more homogeneous with respect to the disciplinary background of the staff than originally intended.

Interdisciplinary research is being carried out if one hereby implies projects receiving contributions from research workers from different disciplines. However, cooperation across institute boundaries has proved difficult, for example, between medicine and the social sciences. The institute model seems gradually to loose some of its integrating functions since the various subjects to a large extent function as individual sections. No special committee has been formed to deal with interdisciplinary research projects relevant to the region.

6. The University today does not appear experimental in teaching methods and marking-systems. Only the six-year course in medicine has completely abolished marks. Because of very favourable student/teacher ratios the University is able to keep classes small and use the seminar form extensively.

7. Staff at the University are conscious of the fact that the University should be regionally relevant. Material from Northern Norway is, as a matter of course, included in subjects such as Norwegian, history, and biology. There are many research projects of regional relevance. These have been started as a result of the interests of individual research workers rather than as the result of a research policy. The University has no formal administrative unit dealing specifically with applied research relevant to the region. No council has been established to secure cooperation between the University and the region, although the three Northern counties are represented in the University Senate.

Assessment of regional importance is difficult in the sense that indirect effects are not easily measured. Data so far available show that large proportions of students graduating from the University seek employment in Northern Norway after leaving the University. Locally in Tromsø the University obviously plays an important role as a large employer which also indirectly has created employment for considerable numbers of people. The University's Planning and Development Department uses local building contractors and planners as much as possible in the construction of the University campus. The University has brought expertise to the Northern region. Numerous inquiries from people in the region show that the University is seen as a problem-solver. The hospital has, as a result of having been made into a university teaching hospital, developed considerably and is now able to handle cases that previously would have to be sent on to hospitals in the South.

Inherent in the University's role of being relevant for Northern Norway is a potential conflict with the goal of autonomy and academic standards comparable to the other universities. The university seems, however, to have retained complete autonomy in relation to the region. The representatives from the three Northern counties are represented only in the Senate which gradually seems to loose much of its importance. The Ministry of Education does not wage more control over Tromsø than the other universities. Comparable academic performances are secured by exchange of censors with the other universities. The fact that the University adheres to the traditional marking system (except in medicine) secures comparability.

Apart from being regionally relevant in its research the University should concentrate on areas which it would be natural for the University to handle. There are several indications that this function is being fulfilled. Thus the Auroral Observatory has been further developed and strengthened by international projects. A special department for arctic biology has been organized. The Institute of Fisheries is very much oriented towards the region in its teaching and research. Much research carried out within individual institutes utilizes "local" data as a matter of course.

* * * * *

The creation of a new university invariably involves conflicts and difficulties. Economic, social, and political circumstances may influence its development as well as the interests and actions of individuals and groups. The next chapter attempts to identify some of the factors that have influenced the developments of the University, and their relative importance for the attainment of the initial objectives.

IV THE PROCESS OF IMPLEMENTATION

4.1 INTRODUCTION

In this chapter emphasis is put on circumstances outside and within the University that have affected the different goals. Developments will be examined in relation to the following themes:

- the recruitment of staff;
- the recruitment of students;
- the development of the system of government;
- the implementation of new educational methods;
- developments affecting regional relevance.

However, as a starting-point general developments important for the University's ability to attain more specific goals will be described such as: general trends in higher education, economic aspects, and the location and construction of University buildings.

4.2 GENERAL TRENDS IN HIGHER EDUCATION IN THE 1970'S

The 1960's were marked by a general optimism about the future need for academically qualified personnel and a rapid expansion within higher education. Economic growth and increasing importance attached to regional development were instrumental in establishing a new university in Tromsø and the short-term vocationally oriented regional colleges as alternatives to the traditional universities. However, the situation for the universities changed dramatically during the 1970's, partly because of a more difficult economy, partly as a result of a different emphasis in educational policy.

From the autumn 1971 the realization within the government of a more difficult financial situation lead to a modification of promises given prior to that time. This meant drastic reductions in the number of new scientific positions given to the universities, reductions which became apparent from 1973 (see figure 4). These reductions were unfortunate coming at a time when student numbers were still growing.

This growth in numbers ceased about 1975. Table 10 shows that the number of students enrolled in universities and similar institutions more than trebled between 1960 and 1970 and continued to grow until 1975. From then on the interest in university studies declined, although numbers have increased somewhat since 1977.

Table 10 The number of Students Enrolled at Universities and Similar Institutions1) 1960-1980.

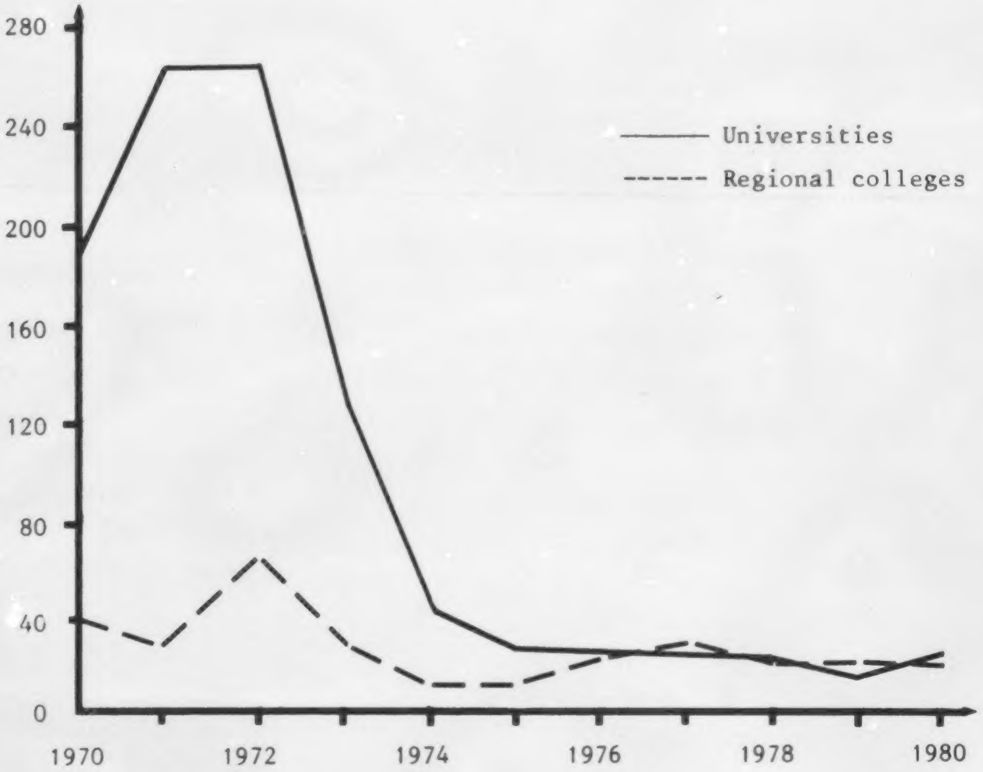
	Year								
	1960	1965	1970	1975	1976	1977	1978	1979	1980
Total no. of students	9,609	19,638	30,165	40,774	40,614	39,306	39,538	40,643	40,664 2)

1) Regional Colleges giving short-term vocational education are not included.

2) Provisional number from the Central Bureau of Statistics.

Source: Central Bureau of Statistics 1969, table 340, 1973, 1978, and 1980, table 1.

Primarily this decline has taken place within the arts, which nationally is the area of study with the highest number of students (20 per cent in 1979). This might reflect that rather sombre forecasts have been made about the future employment market for this category of graduates (see e.g. Institute for Studies in Research and Higher Education 1976). Important is probably also the fact that the University of Oslo, which has the largest faculty of arts, from 1973 has limited its student intake in some arts subjects by insisting on certain entrance qualifications. In practice the barriers applied have been rather low. Furthermore, the regional colleges have certainly offered some competition to the universities. At these institutions student numbers have been growing markedly between 1975 and 1979. However, the regional colleges constitute a comparatively small sector within higher education with only about 4,670 students in 1980.



Source: St.prp. nr. 1, 1969-70 - 1980-81, Ministry of Education.

Figure 4 New Scientific Positions allocated to Norwegian Universities and Regional Colleges 1970-80.

The regional colleges have benefitted from the priorities given to short-term vocational education within the Ministry of Education, and from political support in Parliament. This is reflected in the allocation of new scientific positions during the 1970's, which. in view of the limited numbers of students involved, has favoured the regional colleges compared to the universities (figure 4). Thus the reductions in the number of new scientific positions given to the universities may be seen both as a reflection of a deterioration in the general budgetary situation and as a change in educational policy.

4.3 ECONOMIC ASPECTS IN RELATION TO THE UNIVERSITY OF TROMSØ

Table 11 shows the number of scientific positions allocated to Tromsø and the university sector generally during the 1970's. The most important period of development at Tromsø was 1971 to 1973. However, throughout the 1970's Tromsø has got a very high percentage of all new positions allocated to the university sector, from about 20 per cent in 1971 to almost 40 per cent in 1978.

Table 11 New Scientific Positions[1] allocated to the University of Tromsø and the University Sector Generally, 1970-1980.

University	Year 1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Univ. of Tromsø[2]	18	58	63	48	16	11	11	10	9	3	3
All universities[3]	188	265	267	130	46	31½	30	32	24	19	28
Tromsø as percentage of all universities	10	22	24	37	35	35	37	31	38	16	11

1) Professor/reader II positions and positions given over the budget for the School of Fisheries are excluded.

2) Numbers for Tromsø do not add up to the grand total of 268 positions given in section 3.3. The inclusion of the Observatory in the budget for Tromsø from 1973 partly explains the difference.

3) Not including the regional colleges.

Source: St.prp. nr. 1, 1969-70 - 1980-81, Ministry of Education.

In the budget for 1975 the increase in new academic positions at Tromsø was for the first time seen in relation to the other universities, although all budget proposals from that time make it clear that the growth at Tromsø should be above the average of the other universities (St.prp. nr. 1, 1974-75, p. 132, see also St.prp. nr. 1, 1979-80, p. 157). The general reduction in the number of new positions allocated to the university sector has also hit Tromsø, although at a later time than the universities generally. Considering the fact that the University of Oslo, being the largest in the country with about 19,000 students in the autumn 1980, the last three years has been given about one new scientific position per year, Tromsø has been rather favoured. The budgets proposed for Tromsø have till now received general support both from the government and Parliament, although members of the centre and conservative parties in the Parliamentary Committee on Education have wanted to reduce the number of new scientific positions allocated to Tromsø. Tromsø still considers itself in a period of development, as does the Ministry of Education. New subjects should be introduced and the present subjects strengthened and extended by the inclusion of more specialities. The cuts applied, particularly in the last two years when Tromsø has received three new scientific positions per year, have hit the University rather hard.

The University of Tromsø was established in a golden age financially for the universities. The Plan to Start Teaching in Temporary Accomodation, proposed by the Interim Council in 1970, has been claimed to be of considerable importance for the development of the University. Had the plan not been introduced and accepted by the government at a time when the "going was still good" for the universities, it is uncertain when the University of Tromsø could have got off the ground (e.g. D. Omholt, Ministry of Education, pers. comm. 1980). This is probably also the reason why the promise could have been given to the Interim Council that the University should be allocated extraordinary funds. People within the Ministry today describe the situation around 1970 somewhat differently. At that time there was scope for growth in the budget for higher education. The granting of comparatively more funds to Tromsø than to the other universities was at the cost of something undefined. Today strict financial limits apply to the budgets for the various sectors, such as "universities and comparable institutions"; available funds have to be divided among the different institutions. The regional colleges and higher technical education are today real competitors to Tromsø. However, politically within the Ministry of Education, Tromsø is still, together with the Institute of Technology at the University of Trondheim, given financial priority among the universities.

4.4 THE PROCESS OF CHOOSING A SITE AND CONSTRUCTING THE UNIVERSITY

4.4.1 Introduction

The University campus is situated to the North of the city centre at Breivika where the permanent buildings are now being erected (see figure 2). The choice of site caused considerable controversy, as did the decisions concerning *who* should physically put up the buildings.

The construction of the University Hospital has not yet started and will therefore be considerably delayed compared to the original plans. This seems to influence the University's difficulties in recruiting staff to clinical medicine (see section 4.5). Furthermore, the way the University is contructed is important for the opportunity to integrate different subjects.

4.4.2 The Choice of Site

The location of the University campus caused controversy between the Directorate of Public Construction and Property and the Interim Council on the one hand and the city of Tromsø on the other. During the decision process to establish the University three different sites were discussed:

I The undeveloped areas by the Museum on the *Southern* part of the Troms Island;

II an area in the *middle* of the Island;

III a large area on the *North-Eastern* part of the Island.

The Tromsø Committee adhered to alternative I throughout its discussion of the question of site (Tromsø Committee 1965, pp. 37-38). Important to the Committee was the close proximity to the Museum, the Marine Biology Station, and the city centre. The municipal authorities did not want this area, which is considered the best in the city with a large recreational area, to be developed for the University. They were adamant about alternative II. Gradually, however, the third alternative to the North of the city (i.e. the present Breivika) was drawn into the debate. As part of their town-planning the authorities wished to develop this area for schools, houses, industry, and recreation. At the time of the presentation of Bill no. 142 no decision had been taken, and the Ministry of Education left the matter open (Bill no. 142, 1966-67, pp. 36-41). A specially appointed consultancy firm and the Directorate of Public Construction and Property expressed clear preferences for the first alternative.

With the appointment of the Interim Council the Ministry of Education wanted also this body to express its views (St.prp. nr. 118, 1969-70, p. 2). The Interim Council supported a modified alternative I emphasizing the importance of contact with the established institutions. Alternative III was considered the least suitable, being relatively far removed from the existing institutions. This alternative would imply moving the Museum, the Teachers Training College, and a considerable part of the activities at the Marine Biology Station. Integration of teaching, research, equipment, and buildings was a prime objective. Owing to problems of communication the third alternative would isolate institutions that could not be moved, such as the Auroral Observatory, Holt experimental farm, and the Åsgård Hospital. Thus Parliament's prerequisit, i.e. to build on existing institutions, could not be fulfilled. The Interim Council went as far as to advise against the third alternative (St.prp. nr. 118, 1969-70, p. 4).

The Municipal Committee on Building Land in Tromsø criticized the proposals from the Interim Council for neglecting general aspects of town-planning and focusing only on the University (St.prp. nr. 118, 1969-70, pp. 7-8). According to Hansen (23 Sept. 1977) the Interim Council felt deceived by the city. In the beginning the University seemed to be under the impression that it could simply choose what it considered the best site. The municipal authorities, however, wished to be "master in its own house". They won the struggle supported by the Ministry of Education, which put considerable emphasis on reaching an agreement with Tromsø city, by the government, and after a long debate also Parliament.

While first considering resigning over this decision, the Interim Council decided to let the matter rest. A conservative politician in Tromsø expressed irritation at the University's attitude towards the municipality. The University often wanted to cooperate but on its own conditions. Nevertheless, the controversy over the location of the University seems to have left little bitterness between the University administration and local politicians. The planning of the University at Breivika has on the whole been left in the hands of the University itself.

Integration of subjects and close contact with the city were important objectives in the choice of site for the University. As pointed out in section 3.1, the University is now scattered all over the Troms Island. However, it is slowly being erected at Breivika where the University's own Department of Planning and Development in its building plans tries to secure the aspect of cooperation among the different subjects. Within the campus structure the integration of the local community is seen as important. This was one of the arguments from the University in wishing its location close to the Museum to the South of the Island. Being a cultural and scientific centre of considerable importance in the North, the Museum regularly attracts many people for meetings and exhibitions. A new museum is planned at Breivika together with recreational facilities, a small shopping centre, and a health and social centre which, it is hoped, will attract the local people to the University (Unni Grøneng, University of Tromsø, pers. comm. 1979, see also Solhjell 1977, pp. 163-164). There seems, however, to be a conflict with the Museum where some members of staff are opposed to the move to Breivika. This might reflect that the Museum as an institution of long standing and traditions, has found the inclusion in the University problematic, partly in defining its role in relation to the University, partly in the competition for new scientific positions.

4.4.3 The University Commissions Work from Local Building Contractors

The University's own Department of Planning and Development has in its work at Breivika had as a policy to make use of local building contractors and architectural firms. The University has supported this policy; so has the Ministry of Education. The local branch of the Directorate of Public Construction and Property in Tromsø has been sympathetic to the views held by the University in this matter while the main office in Oslo at one stage wished to close down the Department of Planning and Development.

This conflict manifested itself during the second stage of development at Breivika when it became apparent that members of the Directorate and also the National Association of Architects viewed the planning and construction of the University as a national, not a regional project. The University sees this as a "region versus centre" conflict.
Both the Ministry of Education and the people in Tromsø have been behind

the University in its insistence on using local firms whenever possible, which is in line with the original objective that the University should be regionally relevant. The Department of Planning and Development has stressed that the expansion of the local firms should not be out of proportion to the amount and type of work they are likely to get elsewhere in the region when their projects for the University are completed. Thus the strengthening of the expertise in the North is seen as a potential threat to central control waged from Oslo.

As from 1981, however, the Department of Planning and Development has been reorganized, and is no longer a common department between the Directorate of Public Construction and Planning and the University. Part of its functions has been taken over by the local branch of the Directorate in Tromsø. Operational functions in relation to the University have been transferred to the University from the Directorate. Therefore technical and maintenance functions seem to play a larger role in the Department's work than previously.

4.5 RECRUITMENT OF STAFF

As pointed out in section 3.3 the University finds it difficult to recruit staff for the top positions in certain subjects; in some subjects there is also considerable turn-over of scientific personnel. The recruitment problems in clinical medicine at Tromsø are well known. In the last few years several of the leading professors have left Tromsø to take up positions at hospitals and universities further South. It should be kept in mind that the Medical School at Tromsø was established despite considerable opposition from the medical profession (see section 1.4). The priority given to Tromsø was a political decision which was gradually coupled with ideas of reform. This proved attractive to scientific staff wanting to try new teaching methods. Several of the people originally recruited to the Medical School at Tromsø came with the intention of staying only for a limited period of time.

Now the pioneering era is over in the sense that the new medical course is well established. The building of the regional hospital,[1] however, is much behind schedule and is unlikely to be finished before the 1990's. Despite the fact that the regional hospital has expanded considerably since the arrival of the University, both teaching and research facilities are problematic in the present buildings; the situation in the so-called "Theory-Building" is said to be acute. The new hospital at Breivika is a large and much discussed project (Aftenposten 20 Jan., 8 Mar., 1978). The building process is outside the control of the University being a joint project between the county authorities and the government; the plans must be approved by the Directorate of Health/Ministry of Social Affairs. The financial implications of such a large project (see section 3.1) are considerable. While Troms county assembly has voted in favour of the new hospital at Breivika, it calls on Parliament in the spring session 1981 to vote for greater financial involvement on the part of the government than it has hitherto been willing to assume. The new hospital is thus considered as much a national as a regional undertaking (Nordlys 18 Dec., 1980). Members of the University see a new teaching hospital as a prerequisite for the continuation of teaching for the professional medical course at the University (see e.g. Mjøs 1981).

Therefore apart from the more general problems associated with recruitment of staff at Tromsø (see below), the hospital situation is important at the present time. Basically a hierarchical structure seems to apply to the university teaching hospitals. Today both people in the administration and at the School of Medicine consider the development of clinical medicine at Trondheim to have got off the ground too early[2] (e.g. Y. Løchen, V. Fagernes, A. Nordøy, pers. comm. 1979), although it was made clear in two parliamentary decisions that Trondheim should wait until Tromsø had got properly started (sections 1.4 and 1.6.2). Surprising is therefore a letter to the Ministry of Education as early as December 1971 from the Interim Council stating that the plans to introduce clinical medicine at Trondheim from 1975 would not represent any direct recruitment problems with respect to staff for Tromsø (Interim Council 1971). This decision was carried unanimously by the Interim Council as a result of an inquiry from the rector at the University of Trondheim.

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[1] Till 1975 the Central Hospital.

[2] The first students were admitted in 1975.

Surprise has been expressed in the Ministry at Hjort's acceptance of these plans. Although it seems likely that clinical medicine would have been introduced at Trondheim irrespectively, the process was probably speeded up by Hjort's affirmative answer. At that time Hjort expected a sufficient number of staff to have been recruited to Tromsø by 1975, and Trondheim was therefore unlikely to represent any competition (Interim Council 1971). Tromsø also considered a scientific medical milieu as close as Trondheim to be an advantage (A. Nordøy, pers. comm. 1979). Furthermore, the Interim Council probably wanted to avoid a renewal of the debate concerning medicine at Trondheim. Now Trondheim apparently draws staff away from Tromsø; people in top positions have left Tromsø and gone on to Trondheim, not necessarily because the academic milieu is better but because the hospital is. Should Trondheim also get preclinical medicine the recruitment problems for Tromsø are likely to be increased (A. Nordøy, pers. comm. 1979).

Generally speaking the recruitment problems at the University of Tromsø seem to be similar to those associated with remote districts in other countries such as the United States, Canada, France. Factors outside the control of the University and the Ministry of Education such as climate, which by many is considered harsh and depressingly dark in the winter, and a limited labour market suitable for the qualifications of spouse, are usually reasons contributing to people leaving Tromsø. The turn-over of personnel is said to be greater among staff from

Southern Norway, although there are many Southerners who have been at the University from the start. These factors coupled with general shortages in the labour market in subjects such as computing science and fisheries economics make the recruitment situation difficult in some subjects. It should also be emphasized that subjects such as the pure and applied sciences generally seem to have no recruitment problems and also no problems in making scientific staff stay.

In many ways the University should also be attractive to academics. For one thing the student/teacher ratio is favourable which creates good working conditions for both staff and students. The pure sciences, for example, could take twice the number of students with the present number of staff. The economic situation is still somewhat easier at Tromsø than at the other universities. Special allowances are made on the state budget for the annual expenditure of the different institutes, for travelling costs for scientific personnel, excursions, and running costs generally. Since the establishment of the University, the Ministry of Education has tried to minimize the disadvantages of being located far away from the centre by providing extra funds for extended contact with other universities and scientific milieus. This is of course also an important reason why costs per student at Tromsø are higher than at the other universities (see section 3.2).

4.6 RECRUITMENT OF STUDENTS

The number of students at the University of Tromsø in 1980 was 15 per cent short of having reached the target of 2,000. Different conditions and developments have influenced the slow growth in student numbers (see table 4). Of considerable importance are the following aspects:

a) developments taking place within secondary education in the three Northern counties;

b) national tendency of a decrease in the number of university students;

c) aspects related to the pattern of study.

4.6.1 Developments within Secondary Education in Northern Norway

An increase in the proportion of young people taking the university entrance examination in Northern Norway was seen as a prerequisite for sufficient recruitment to the University of Tromsø. A university in Tromsø was considered to stimulate this development.

Table 12 shows that the percentages of the age group taking the university entrance examination in 1965 in Northern Norway was considerably below the national average, particularly for Troms and Finnmark.

Table 12 Pupils with a University Entrance Examination as percentage of the Population Aged 19, 1960-1976. By county.

					Year				
County	1965	1968	1970	1971	1972	1973	1974	1975	1976
Nordland	11.1	13.4	16.3	19.5	19.4	21.6	21.9	24.4	25.4
Troms	7.7	10.6	12.8	12.6	16.2	17.7	17.2	19.2	17.2
Finnmark	5.2	10.3	10.8	10.6	13.3	13.5	14.2	12.6	16.5
National average	18.4	21.2	22.8	25.1	25.4	26.7	28.2	29.8	29.9

Source: Institute for Studies in Research and Higher Education 1977:8, table 4, p. 13.

As part of a national trend the percentages for Northern Norway have increased considerably during the 1960's and 1970's. The relative increase for Nordland, Troms, and Finnmark compared with the national average was considerably higher between 1965 and 1970 than between 1970 and 1976. Thus developments in the North have slowed down compared to the rest of the country. As table 12 shows, the difference between the actual percentages in the various Northern counties and the national average has increased for Troms county (from 10.7 in 1965 to 12.7

per cent in 1976) while it has remained about same (13.4 per cent in 1976) for Finnmark. Nordland was in 1976 only 4.5 per cent short of having reached the national average. Developments in Nordland, however, are of less importance to the University which has Troms as its main recruitment area (see table 6). This development lead Holt, who followed as rector when Hjort withdrew, in 1976 to express his concern at the possibility of recruiting enough students for the University from the three Northern counties (Aftenposten 1976).

Although the University admits students with qualifications *other* than the university entrance examination, the great majority is accepted on the basis of their university entrance examination. In the last two years 16 to 17 per cent of the students admitted in the autumn term and 9 to 12 per cent of those starting in the spring have had other qualifications.

Therefore developments within secondary education in Northern Norway are of interest in this connection. In Norway secondary education is a comprehensive system incorporating both courses preparing for university entrance and vocational courses. The relative priority given to the different types of courses has been in the hands of the county authorities since the middle of the 1960's. In local educational policy two factors are important, i.e. the structure of local industry and the local demand for particular types of education.

The influence of local politicians, representing the different communes in the county assembly, plays an important role in this process. These politicians seem more oriented towards local needs and demands in their respective communes than to a countywide or regional educational policy. The priority given in the late 1960's and in the 1970's to higher education suited to local needs (e.g. the establishment of regional colleges), is also reflected in the developments within secondary education which generally have favoured the more vocationally oriented courses. This is also in line with the priorities now voiced in the Ministry of Education. Current developments also reflect that facilities on a national basis are adequate with respect to courses preparing for university entrance while acute shortages prevail for places in vocational secondary education (Council for Upper Secondary Education, pers. comm. 1979). Educational emphasis in the three Northern counties confirms this; all three of them stress that there are insufficient places on some of the vocational courses (St. meld. nr. 22, 1979-80, pp. 244-246).

In line with this Ingebrigtsen shows that the distribution of *new* places in secondary education has, generally speaking, favoured vocational education. In all the three Northern counties this development has been particularly strong in the 1970's. As table 13 shows, new places on university entrance courses were given quite strong priority in Nordland, Troms, and Finnmark between 1965 and 1970, while there have been considerable reductions in the 1970's, particularly in Finnmark. In this county courses of a commercial nature have been given high priority.

Table 13 New Places in Secondary Education allocated to Courses preparing for University Entrance. 1965-1977. Percentages of all New Places Allocated.

County	Year	
	1965-70	1970-77
Nordland	50.7	48.3
Troms	63.4	43.6
Finnmark	56.9	10.6

Source: Ingebrigtsen 1979, tables 98-99, pp. 52-53.

Table 14 giving the relative distribution of places in secondary education in Northern Norway between 1965 and 1977, shows that the percentages of pupils on university entrance courses have decreased compared to vocational courses in Nordland and Finnmark in the 1970's while it has remained about constant for Troms. Thus courses preparing for the university entrance examination seem not to have been given sufficiently high priority in Northern Norway, particularly in Troms and Finnmark, to secure adequate recruitment of students to the University. This might reflect that the youth in the area are more motivated for vocational training than for the more theoretical university entrance courses.

Table 14 Pupils in Secondary Education in Nordland, Troms, and Finnmark. Distribution on Courses preparing for University Entrance and Vocational Courses. 1965-1977. Percentages.

County	Univ. Entrance			Vocational		
	1965	1970	1977	1965	1970	1977
Nordland	56.9	54.7	53.7	43.1	45.3	46.3
Troms	35.0	43.6	44.2	64.9	56.4	55.8
Finnmark	43.3	46.7	42.4	56.7	53.2	57.6

Source: Ingebrigtsen 1979, tables 94-96, pp. 49-50.

4.6.2 National Tendency of a Decrease in Student Numbers

The fact that student numbers at Tromsø have been growing very slowly and also decreasing between 1976 and 1977 may be seen as part of a national tendency of decline in student numbers in the mid 1970's (table 15). As table 15 shows, the number of students at the Universities of Oslo and Bergen also decreased between 1975 and 1978, although numbers have been increasing since 1979. The continuous growth at the University of Trondheim is partly the result of a larger intake at the

Institute of Technology (which operates a strict *numerus clausus*) and the introduction of clinical medicine from 1975. At the University of Tromsø both the social sciences and the arts have shown increases in student numbers in the last two years (table 16).1) This as opposed to patterns observed at the other universities where student numbers have been declining in the arts, and at the University of Oslo and the College of Arts and Sciences, the University of Trondheim, also in some of the social sciences (Institute for Studies in Research and Higher Education 1980, table 4.2, p. 42). At Tromsø the large increase in numbers within the arts from 1978 to 1979 is mainly due to increases in numbers taking history and philosophy, i.e. subjects belonging to the Institute of Social Sciences at the University of Tromsø; in the languages only small increases may be observed in the last three years (University of Tromsø 6/78, 4/79, and 2/80).

Table 15 Number of Students at Universities and Similar Institutions. Autumn Term 1972-80.

Univ./ Univ. College	Year								
	1972	1973	1974	1975	1976	1977	1978	1979	1980 1)
Bergen	7,115	7,232	7,431	7,888	7,800	7,306	7,203	7,432	7,657
Oslo	18,926	19,437	20,060	20,224	19,881	19,067	18,818	19,147	18,913
Tromsø 2)	414	855	1,043	1,289	1,342	1,306	1,412	1,569	1,687
Trondheim	6,031	6,516	6,939	7,280	7,407	7,444	7,869	8,245	8,168
Various univ. colleges	2,934	3,248	3,795	4,093	4,184	4,183	4,236	4,250	4,239
Total	35,420	37,288	39,268	40,774	40,614	39,306	39,538	40,643	40,664

1) Preliminary numbers.

2) Owing to differences in registration, small discrepancies may be observed between this table and table 4.

Source: Central Bureau of Statistics 1976, 1977, 1979, and 1980, table 1.

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1) The continuous growth in medicine mainly reflects the annual intake of 40 students for the six-year professional course.

Table 16 Number of Students in Various Subjects at the University of Tromsø 1975-80. Autumn Term.

Subject	Year					
	1975	1976	1977	1978	1979	1980
Arts[1)]	337	336	303	297	381	384
Social Sciences	146	139	131	145	188	225
Pure/Applied Sciences	274	315	301	303	317	301
Medicine	157	179	242	275	279	287
Fisheries	47	57	57	62	81	87
Preliminary Exams[2)]	300	224	181	247	255	236
Other subjects	33	121	79	83	83	167
Total no. of Students	1,294	1,371	1,294	1,412	1,584	1,687

1) Includes history, philosophy, and archeology for comparison with other universities.

2) See Appendix III.

Source: Institute for Studies in Research and Higher Education 1979:1, table 7, and University of Tromsø statistics.

As pointed out in section 4.2, the general decrease in the number of arts students may reflect the rather sombre forecasts that have been made about the future employment market for this category (Institute for Studies in Research and Higher Education 1976). The University of Tromsø deplores that such forecasts may have kept potential students away and emphasizes that although employment problems might apply to certain groups of academics seeking work in the more central part of the country, the need is high for all types of academically qualified people in Northern Norway (interview with Fagernes in Uniternt 1979B, p. 2). The Institute of Languages and Literature also points to the shortage of qualified teachers in the North; an excess of arts graduates is a problem only for Eastern Norway, according to sources at the Institute (interview with Aspaas in Aftenposten 17 Jan., 1979). A recent survey of teachers in primary education in the three Northern counties shows, for example, that 8 per cent of those teaching in the upper part of primary education were without adequate qualifications (NOU 1978, figure 2.1, p. 17). Solhjell (1977, pp. 113-115), however, points out that apart from teaching and research the labour market for academics in Northern Norway is rather limited. Data supplied in section 3.8.5 confirm Solhjell's view since 88 per cent of graduates with a higher degree from the University of Tromsø were indeed employed in teaching and research six months after graduation.

4.6.3 Aspects related to the Pattern of Study

The number of students matriculating at the University of Tromsø each year is high (see table 17) compared to the total number of students at the University (table 4). The comparatively high number admitted in 1973 may reflect that many people from the region had postponed university entrance in anticipation of the opening of the local university. The slow accumulation of students is partly caused by the fact that a considerable percentage of students disappears before completing a degree (see section 3.4.3).

Table 17 Students Matriculating at the University of Tromsø 1972-80.

	Year of Matriculation								
	1972	1973	1974	1975	1976	1977	1978	1979	1980
Annual total	341	911	742	843	816	659	701	840	867

Source: University of Tromsø statistics.

Several explanations may be offered. For one thing a large proportion of those leaving after the preliminary examinations are people from the South doing military service in the North, and making use of available facilities at Tromsø. Furthermore, the University offers only a limited range of subjects and specialities within individual subjects. Thus students are forced to go elsewhere for particular courses such as French and geography or specialities within the pure and applied sciences. In the autumn 1979 the number of students from Northern Norway enrolled at the Universities of Oslo and Bergen 1) was high, 1,068, compared to the number at Tromsø (table 16). As many as 64 per cent of the students at Oslo and Bergen were studying arts, social sciences, and pure and applied sciences which might reflect that the choice is rather limited at Tromsø. In the case of social sciences a large proportion of the students was probably taking psychology and economics which do not exist as professional courses at Tromsø. Students are also said to be more selective than previously in their choice of subjects, combining subjects and courses that will secure future employment. Furthermore, some one-year courses at Tromsø begin only once per year. Students ready to enter such a course in the "wrong" term, may go on to another university rather than wait for half a year.

The University considers an expansion in the number of subjects to be essential. Here a vicious circle operates, according to the University. The students leave because of the limited range of subjects or specialities within individual subjects, thereby reducing the total numbers of students. With a small number of students new scientific positions will not be allocated to the University enabling it to introduce new subjects (interview with Fagernes, Aftenposten 17 Jan., 1979). At present the competition within the University for scarce resources seems to take place among the already established subjects, and staff seem reluctant to give priority to something new. On the other hand, some groups do want to introduce new courses because their own disciplines, e.g. psychology, geography, and law, at present have only a peri-

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1) No data were available for the University of Trondheim because of the introduction of a new computing system.

pheral status in relation to other established subjects. The Ministry of Education, however, emphasizes that lack of students has not influenced the number of positions given to the University, which is reflected in the fact that the University has got more positions than called for in Bill no. 142.

The possibility of combining an education at a teachers training college or a regional college with examinations taken at a university (see Appendix III) probably also influences the pattern of study at Tromsø, as at the other universities. Some students may only need one or two university subjects for a lower degree. Within the pure sciences at Tromsø the impression prevails that many of their students are only interested in one or two subjects as additional qualifications to their teachers training diploma.

In view of the favourable student/teacher ratios at the University of Tromsø, it might be considered surprising that the University has not recruited more of its students from outside Northern Norway, particularly considering the great pressure that exists both on facilities and teachers at the other universities (see section 3.3). The limited range of subjects available at Tromsø might prevent a large recruitment from other parts of the country where the universities do have a much wider selection of subjects. The fact that the climate is considered rather severe with dark winters and cool and rainy summers, might also keep Southerners away. This aspect might of course also be an incentive for local students to by-pass Tromsø and go to the universities in the South. In any case distances within Northern Norway are considerable; students having to travel anyway might just as well go South.

The University of Tromsø is also likely to compete with the regional colleges at Alta in Finnmark and Bodø in Nordland about new students; some students are likely to prefer these colleges which offer primarily short-term vocational education. The recent decision to establish a regional college in the Southern part of Troms county (St.prp. nr. 1, 1980-81) is likely to increase this competition.

4.7 THE DEVELOPMENT OF THE SYSTEM OF GOVERNMENT

No law has been passed for the University of Tromsø, which is an anomaly. In the early 1970's a common law was planned for all the universities, and a special law for Tromsø was therefore considered superfluous. This common law has, however, not materialized. Thus Tromsø is governed according to administrative directives and royal decrees. The internal administrative rules for the University, which materialized as a result of the debates in the period of the Interim Council (see section 1.7), were approved by royal decree of April 13, 1973. These regulations were further revised on June 27, 1975 when the number of representatives in the Senate was increased to include the six representatives of the three Northern counties as full members. A further revision of December 1, 1978 brought representatives of the Museum into the Senate and increased the size of the Board from 11 to 13 members by including an additional two scientific members (Bestemmelser om styringsorganene 1973, 1975 og 1978), hereby reducing the student representation from 27 to 23 per cent.

Members of the University today seem dissatisfied with the system of government which does not function as originally intended. Two factors are invariably brought forward: the declining importance of the Senate and the students' lack of commitment.

The Senate in 1973 had 46 members, today 59. From meeting three times per term it now meets twice per term (Bestemmelser om styringsorganer 1975 og 1978, p. 18), and then basically to approve the matters prepared by the Board. The Board in reality governs the University together with the administration. The Board seems to play a decisive role also in the Senate where those who are also members of the Board, are said to play the most active role in the debates. The opinion has been voiced that the Senate has in reality become superfluous.

Throughout the University government, in the institutes and the central governing bodies, efficiency and degree of democracy are dependent upon commitment from elected representatives. Gradually it has become more difficult to find enough students willing to be elected as representatives to institute boards and committees. The committee revising the curriculum for the course leading to a higher degree in the social sciences could, for example, not find any student willing to serve on the committee (H.O. Larsen, University of Tromsø, pers. comm. 1980). On the other hand, students are also reported to have had quite some influence on the development of individual courses, such as fisheries and the higher degree course in Norwegian (Åse Hiorth Lervik, O. Handegård, University of Tromsø, pers.comm. 1979 and 1980 respectively). The students are also less active in their own organizations, as at other universities; while general meetings in the early 1970's were attended by 80 per cent of the students, attendance is now down to about 10 per cent.

Whether this lack of interest is caused by internal or external conditions may not easily be demonstrated. The contrast to the situation in the early 1970's is striking. Of importance may be the fact that the University now is established and works according to a certain system. In the early period the students were fighting for their share of the votes in the decision process, hoping that the pattern established at Tromsø would influence the system of government also at the other universities. Many of them had been recruited from the other universities. They were idealists and also highly politicized, although less concerned about party politics than the securing of certain rights within the university system. In common with many of the scientific staff they were disenchanted with the traditional universities' reluctance to change. In Tromsø they were invited to participate in creating a new type of university. Only by securing a democratic right of representation could they hope to continue to influence the University's policies in the future.

The days of the student revolt are gone, and students have returned to their books. In the case of Tromsø the actors have changed; those who fought the battles of the early 1970's have been substituted by another generation of students. As part of a pattern applying also to the other universities, these seem less committed than their predecessors. Generally speaking students today seem more conscious of the labour market which also in Norway has become somewhat more difficult for academics. They study harder to get better marks and have less time for administrative functions. In Northern Norway important political questions outside the University concerned with the development of energy - oil and hydro-electric power - may have seemed more important than internal university politics in the last few years.

At Tromsø the lack of continuity in the student body might be a contributory cause. A fairly high proportion of the students stays at the University for a very limited period of time (section 3.4.3). Furthermore, the emphasis that staff and also the administration have put on the *scientific aspects* of the University in order to secure academic recognition, has prevented the University from following the more political line of the students.

4.8 THE PROCESS OF IMPLEMENTING NEW EDUCATIONAL METHODS

4.8.1 Interdisciplinarity versus Disciplinarity in Teaching and Research

Interdisciplinary curricula have arisen as a result of the identification of problems in society requiring a range of disciplines for their solution. At Tromsø the concept has been implemented primarily within three fields of study, i.e. medicine, fisheries, and the social sciences. Both the arts and the pure and applied sciences have adhered to a disciplinary organization and structure.

During the goal formulating period within the University the concept of interdisciplinarity was not thoroughly discussed. Here a fruitful distinction may be made between *multidisciplinary* and *interdisciplinary* subjects and research. *Multidisciplinarity* basically implies that teaching and research may have a common purpose but participation in a project or course takes place on a disciplinary basis. Multidisciplinarity is therefore primarily a question of organization or administration. *Interdisciplinarity* demands an integration of the different subjects or disciplines into a common unit and involves scientific and research theoretical problems (see e.g. Hovedkomitéen for norsk forskning 1975, pp. 1-2). In the case of Tromsø this distinction may be considered useful since approaches there seem to have gone in both directions. Primarily the professional courses in medicine and fisheries have been developed along multidisciplinary lines, while one in the social sciences has attempted more of an integration of the various disciplines. The discussion here is mainly based on the experiences of the social sciences.

Limiting factors in the development of courses across disciplines at Tromsø have been threefold:

1) the lack of tradition for this type of approach;
2) the power of disciplines and departmental boundaries;
3) the influence of conditions outside the University.

The Lack of Tradition for an Interdisciplinary/Multidisciplinary Approach

Interdisciplinary curricula are new not only in a national, but also in an international context. Thus they may not evolve from similar curricula elsewhere. As may be demonstrated in the case of Tromsø, an interdisciplinary approach may not easily be used unless areas of research or instruction may be defined that require several disciplines for the solution of certain problems or to reach specific teaching aims. Within the social sciences four research groups have been organized which are also responsible for teaching programs. In medicine and fisheries the objective of educating candidates suited for general medical practice and for the fishing industry respectively has resulted in multidisciplinary courses.

Within the social sciences the concept of interdisciplinarity is experienced as problematic by both staff and students. A constant process therefore seems to take place with respect to curriculum development and the organization of the different parts of the course. In this process the different disciplines are defined and redefined in relation to each other. Difficulties have been encountered in trying to develop a common curriculum encompassing the different disciplines. This involves a definition of a common theoretical basis and a synthesis of the various disciplines. The individual disciplines are, however, always present because the teachers have a disciplinary background. Scientific discussions across disciplinary boundaries have been difficult and not always fruitful. As a result the research groups have taken over more of the teaching than was originally intended at the cost of a common interdisciplinary curriculum. This may be seen as a move towards a more disciplinary approach since at least two of these groups consist of staff representing only one discipline. Some members of staff are reported to think more along disciplinary lines and to find the *individual* disciplines a more fruitful starting-point than the interdisciplinary approach (T. Thuen, T. Edwardsen, University of Tromsø, pers. comm. 1979). Nevertheless, the committee recently established to evaluate the course leading to a higher degree, clearly states in its preliminary report that the common part of the curriculum should aim to be *interdisciplinary*, and have as an objective to *integrate* elements from the different disciplines (Utkast til innstilling fra komitéen for opplegg av felles hovedfagsundervisning i samfunnsfag 1980, pp. 4-5).

In fisheries, for example, the multidisciplinary organization makes the course consist of rather loosely coupled subjects or areas of study, although they have a common teaching objective. Interdisciplinary approaches as defined above rarely occur (O. Handegård, University of Tromsø, pers. comm. 1980).

The Power of Disciplines and Departmental Boundaries

The other limiting factor concerns the teachers' adherence to specific disciplines, and the federal rather than strong centralized structure of the universities. No central committee has been organized at Tromsø to deal with interdisciplinary research, which probably reflects the difficulties involved in organizing a central unit with sufficient powers to make institutes or individual research workers cooperate in a common scheme. As at other universities the interdisciplinary approach also at Tromsø has to originate within the institutes, promoted by individual members of staff.

Although an institute model was used at Tromsø to promote cooperation among subjects, the individual sections within the arts, pure and applied sciences, and also at the Institute of Social Sciences with respect to history and philosophy, on the whole seem to function as separate entities. This reflects the need of both staff and students to belong to a particular unit. Staff are virtually all products of discipline-oriented milieus. Their methodology and theoretical background have originated through a particular discipline which also transcends the boundary of an individual university. An academic is part of a wider national and international world where merit is gained by being an expert in a limited field within a specific discipline. A university is also influenced by other universities which provides a global pressure to conform to a traditional disciplinary approach.

Not to be disregarded is the fact that interdisciplinarity demands a very wide orientation in several individual disciplines. Developments within one discipline are so rapid and extensive that most academics find it difficult to keep abreast of more than one subject.

Within the social sciences staff generally have been interested in and promoted the objective of interdisciplinarity, and have acted as a supporting force in the implementation process. Nevertheless, both staff and students have felt the need also here to belong to a specific group. The various research groups have had this function. It seems clear that these groups have developed into purer disciplinary units than was originally intended. They are also less flexible since scientific staff are formally attached to a specific group on appointment. Thus one research group is oriented towards educational problems and consists solely of educationalists; the second group concerned with ethnic questions, consists primarily of anthropologists; the third group dealing with social policy and consisting of staff representing different disciplines, seems primarily oriented towards sociology. The fourth group on planning and local society, on the other hand, seems less specific in its orientation, and has also got a multidisciplinary composition of staff.

Within the multidisciplinary group on social policy, for example, the need to defend and promote the objectives of one's own discipline has resulted in the psychologists working to introduce a separate course in psychology. The psychologists feel frustrated at the lack of a disciplinary milieu and seem to have been unable to influence the orientation of the group to which they belong which, as mentioned above, has gone in a sociological direction (Nordlys 20 Feb., 1980, p. 8, T. Thuen, T. Edvardsen, University of Tromsø, pers. comm. 1979). Løchen, the present rector of the University, finds a development promoting individual disciplines within the social sciences unfortunate (Nordlys 22 Feb., 1980, p. 6). The matter is now in the hands of the Board. A somewhat interesting parallel is the development at the University of Bergen where psychology now has broken out of the Faculty of Social Sciences and formed its own Faculty of Psychology.

Students who have taken a lower or a higher degree in social sciences at Tromsø, seem to have a wider interdisciplinary orientation than students educated at the traditional faculties of social sciences. Nevertheless, various choices with respect to curriculum and topic for a thesis invariably promote a disciplinary orientation. Students who have finished their higher degree, claim that particularly at the thesis stage they are forced to define themselves in a disciplinary direction, mainly because the methodology and theory they use belong to a special discipline. Thus developments at Tromsø seem parallel to experiences at other universities where the summit of the pyramid on the whole has been subject specialization (see Wilby 1976, p. 247).

Although there is considerable cooperation across institute boundaries within the School of Medicine, the multidisciplinary approach both in research projects and in teaching there and at the Institute of Fisheries does not require a definition of one's disciplinary alliance. On the whole staff remain "safely" anchored in their own disciplines and are in the case of medicine also reluctant to take over teaching responsibility in subjects bordering on their own, which for budgetary reasons might become necessary at this School (R. Hanoa, University of Tromsø, pers. comm. 1980).

At Tromsø interdisciplinary curricula have been more prosperous *within* institute boundaries than *across* them. The goal to integrate medicine and the social sciences has only partly succeeded. The reason seems to be mainly a clash of ideals. According to the medical staff sociologists have wanted to force upon them their sociologist views of how to run the health care system and how doctors should behave. At the Institute of Social Sciences this is seen more as a resource problem, and priority has been given to the teaching of the Institute's own students.

The Influence of Conditions outside the University

Experiences of graduates from the course in fisheries illustrate the problems involved in gaining recognition for a new, multidisciplinary education, originating from strongly discipline oriented subjects. Both the Research Council for Fisheries and the University College of Fisheries (of which the Institute of Fisheries is a part, see section 3.6) have been reluctant to recognize candidates from the Institute at Tromsø as qualified research assistants. Students within the pure and applied sciences in Bergen and Tromsø have also voiced the opinion that these candidates should not be considered qualified for the award of fellowships. For the Institute of Fisheries this attitude has been most unfortunate and has lead to the Institute not being able to recruit its own graduates.

During 1979 the College of Fisheries revised its policy and now gives candidates from Tromsø the formal recognition needed to make them acceptable as research assistants. With respect to fellowships, however, the Research Council still considers the Tromsø graduates insufficiently specialized in individual disciplines, and has therefore not changed its views. The Institute of Fisheries sees the conflict as a power struggle among the various professions, where those who have specialized in fisheries via the separate disciplines, such as the applied sciences and technology, see their interests threatened by this new way of qualifying for the research world. The competition is made even stronger by the mobilization of regional interests on behalf of Tromsø (Norges Fiskerihøgskole 1980, pp. 23-24). However, these difficulties have not lead to changes in the course structure at Tromsø. The graduates from the Institute have no problems in finding jobs within the fishing industry. The Institute is inclined to think that these problems are "birth-pains" which will gradually be solved.

Outside circumstances *have* lead to changes of the course in the social sciences. Originally the fourth year of the course was comparable to the first year, i.e. it consisted of an interdisciplinary course, although at a higher level. A higher degree in the social sciences could only be taken on the basis of both the interdisciplinary major course (constituting the first two years) and an interdisciplinary minor course in the fourth year (see figure 3). The Tromsø-model was thus unique not only in its interdisciplinary approach but also by requiring three years of study of the Tromsø version of the social sciences. This lead to problems of recruiting enough students, who as a result of this requirement, frequently needed extra time of study for a lower degree if they entered in the middle of the course. Students who transferred from Tromsø to other universities during the course did not have a sufficiently wide selection of subjects for the recognition of a lower degree elsewhere. The fourth year was therefore replaced by another one-year subject to be chosen from among a list of recognized subjects. The course is thus made more comparable to requirements applied elsewhere.

Developments in the degree structure at the universities generally were an underlying reason for this change at Tromsø. In the latter part of the 1960's there was less flexibility with respect to combining subjects from different faculties within one university and from different types of institutions for the recognition of a degree. The course in the social sciences at Tromsø was organized then. Now, however, students move between institutions to a greater extent than before, and degrees are made up of subjects taken at different universities and other institutions within higher education (Appendix III). Furthermore, the present version of the course is considered to give the students a broader background, making them better suited for teaching jobs in the school system, which is considered important for the labour market in Northern Norway.

In contrast to the courses in fisheries and social sciences the course in medicine has not been hampered by outside forces. However, the first candidates graduated about a year and a half ago, and the School has as yet no experiences of the practical application of the course, for example, in a research context. The course operates a strict *numerus clausus* because of the large number of applicants, and medical students do not wander between the various faculties in Norway. Thus problems experienced by the social sciences are not applicable to medicine.

4.8.2 Examination Procedures and Teaching Methods

Educational innovation at Tromsø seems partly to have been hampered by the fact that the University in many ways has to be comparable to the other universities. With respect to structure of courses, marks, and teaching methods Tromsø has had to be in line with the other universities to facilitate the migration of students among the different institutions. This has been a point of considerable importance to Tromsø because of its special recruitment problems. The one-year medical course, for example, has now been changed to include traditional marks, and examinations have been made more extensive; this to the disappointment of the students (Aftenposten 19 Jan., 1979). The original course regulations in the social sciences were changed to make the course more comparable with similar courses elsewhere, and thereby increase the recruitment of students.

On the whole innovation in teaching seems to have been associated with the new courses that have been created, particularly the six-year course in medicine and the course in the social sciences. In these courses integration of the various parts of the course or the disciplines forming the basis for the course, seems to have necessitated innovation also in teaching procedures. Medicine, which bases its teaching on the "organ model system" (see section 3.7.1), originally wanted two or three teachers to be present at the lectures in order to secure an integrated form of teaching. For reasons of finance and staffing this has proved impossible. The course in social sciences promotes integration by concentrated teaching of one topic over a limited period of time (section 3.7.2).

Only the six-year medical course has completely abolished marks. This has probably been possible because it is a professional course with a stable student body. The severe competition for available places makes students generally stay where they have been accepted. Thus medicine does not have to worry about being compatible with courses at the other universities. In fact it seems clear that the medical course at Tromsø is so different from the medical courses at Oslo and Bergen as to make transfer in the middle of the course virtually impossible.

4.9 DEVELOPMENTS AFFECTING THE REGIONAL RELEVANCE OF THE UNIVERSITY

4.9.1 Autonomy versus Influence from the Region

Many people originally recruited to the University - staff and students - wanted their work to be relevant to the region. The question of representation from the region was raised both in Bill no. 142 and by the Goal-Formulating Committee. The government proposed an unofficial body for such representation. The Goal-Formulating Committee left the matter of representation to the University. The views held by both the government and the Goal-Formulating Committee reflect that the issue was considered difficult, particularly in view of the fact that the University should be an autonomous institution with standards comparable to the other universities. From a regional point of view this attitude may be considered surprising since the University had as a primary goal to perform work of relevance to Northern Norway.

The issue did, however, cause considerable debate within the University in the early 1970's, but no decision in relation to the administrative system was taken. The question of who could be said to actually represent the people and the different interests in the region was fundamental. Large groups within the University feared the influence from people with power and resources who might use the University to forward their own interests. The ideal of many people in the University - also expressed by the Goal-Formulating Committee - was to improve conditions for groups with special problems. Idealistic goals coupled with the fear of restrictions to the academic freedom through external control prevented the University from acting on this score. The simplest solution was to say "no" to regional representation.

Regional commitments in research, for example, forced some sort of local representation on the University. The School of Medicine and the Department of Practical Education (started in 1975) have as the only lower administrative units, local representation on their boards. At the School of Medicine one representative of the health authorities and the practitioners in the region is member of the Board of Education. The members of this board are automatically members also of the Budget Committee, the regional representative, however, without voting rights. With respect to the University's central government the Senate in May 1974 voted to invite the three Northern counties - Nordland, Troms, and Finnmark - to appoint two members each to the Senate; these were to meet without voting rights. The counties were encouraged to coordinate their nomination to secure representation of various economic sectors such as agriculture, fisheries, the school system, the health system, industry and mining, and the employee side (the Director, University of Tromsø 1975). These members were nominated during the winter 1974/75 and started their term of office in the spring term 1975. In the course of 1975 they were given status as representatives with all voting rights.

Prior to this decision, however, the six members were asked to express their opinion about their role in the Senate, and whether they considered status as full members desirable. Different members stressed the importance of *full* membership also for those from *outside* the University who wished the institution to function for the region. In this respect communication between the region and the University government was seen as important. One member also pointed out that many people in the region gradually had got the impression that the University really wanted *no* interference from the local community. In this opinion, however, society had a right to representation as long as the University was a public institution. This member wished full membership in the Senate to lead to regional representation also on the Board (The Board, University of Tromsø 1975).

During the subsequent debate in the Senate the motion from the Board to give the members from the region full status, was carried by a 58 per cent majority. There was thus scepticism among many representatives concerning regional influence in the University (meeting of the Senate 16 April, 1975, see ref. to Director, University of Tromsø).

The present county-wide representation in the Senate does not function well for the University or the region. Of fundamental importance is the fact that the region is represented in the part of the University's central government that has lost much of its significance. Representatives from the region feel they have no real possibility of influencing matters. Only representation on the Board and thereby influence in budgetary questions, would secure real regional influence.

Within the University regional representation on the Board is seen as difficult in practical terms because of frequent meetings and considerable geographic distances. On the whole the University seems to value the more informal contacts with the region in the form of, for example, distance teaching, continuing and adult education, and the numerous inquiries from the region to the central administration, the various institutes, and individual members of staff. Staff at the University feel that the city of Tromsø has benefitted more than the rest of Northern Norway from such activities. The opinion has been expressed in the Ministry of Education that resources are too limited for the University to work extensively in the local districts.

The University has been criticized for its lack of interest in regional political questions, particularly in view of the fact that regional development and regional relevance were the basis for its foundation (see e.g. Solhjell 1977, p. 32). The different parliamentary reports on regional development relating to Northern Norway have, for example, not been debated officially within the University (Solhjell 1977, pp. 31-32).

Thus the University lacks some sort of channel whereby the region feels it may influence university matters; the University seems reluctant to see the Board in such a role. This point is important if the University really wants to adhere to what many people would consider to be the basis for its foundation. It may also be argued that "a university for the region", "the university as a resource in regional development" are so loosely formulated goals and the implications so wide that they do not easily lead to practical consequences. No teacher or student come to Tromsø under the obligation to do research, teach or follow courses with special regional relevance. The conflict is probably bound to remain as long as autonomy and academic freedom are the zeal of the universities.

Furthermore, the academic professions are not only part of a local institution. They are national and international in character. Within several of the disciplines at Tromsø the research has an international relevance which may not be hampered by regional restrictions. In many of the pure sciences and within medicine the recognition sought is that of the international as much as the national world. Although the Auroral Observatory focuses on areas of study and research natural for a university located in Tromsø, its outlook is truely international. Scientific staff also stress the danger of the University becoming provincial unless the principle of generality is emphasized also in relation to teaching and research specifically related to Northern Norway.

4.9.2 Subjects Relevant to the Region

In the choice of subjects there is an element of ambiguity in the goals for the University. On the one hand it should develop into a full university, on the other hand it should concentrate on subjects that would produce the type of academically qualified personnel most needed in Northern Norway.

Apart from the general economic situation the subjects offered at the University of Tromsø have been influenced by different conditions:

1) preferences from the University in its budget proposals to the Ministry of Education;
2) general demand in the labour market.

Preferences from the University in its Budget Proposals to the Ministry

Generally speaking the Ministry of Education does not guide developments at the different universities with respect to new subjects and areas of specialization within a subject. However, Parliament, on the basis of proposals from the Ministry of Education, has retained an element of control in that all top positions (professor, reader) are earmarked for specific subjects. Until 1976 the University of Tromsø, however, had the freedom to use these top positions for subjects of its own choice. It was up to the University to allocate these positions to subjects having qualified applicants, an important prerogative for the University in the initial period of development. Now Tromsø is in line with the other universities in that the top positions are earmarked, although budget proposals from the Ministry of Education are based on proposals from the individual universities.

At Tromsø new developments within individual disciplines seem to have been less concerned with the relevance for the region than for the subject itself. Comparatively isolated units within individual subjects seem to have originated more as a result of the interests of qualified research workers, than as a result of a discussion of that which is most relevant for the region. This might reflect that strong schools in one university also have a tendency to spread to others. In the present economic situation with few new positions available, these units remain rather vulnerable in their dependence on a very limited number of scientific personnel. This again reflects that the University seems to find it difficult to give priority to the development of one department or field of study since all subjects need to consolidate, and therefore need more new positions.

This also exemplifies the University's dual role. The University sees itself not only as a university for the region, but as an institution that is national and international in outlook and therefore must secure and extend national and international cooperation. Thus individual subjects need to be comprehensive, also in order to recruit students who otherwise will have to seek other universities for special fields of study. According to the University administration, introducing new subjects is made difficult by the University's own members who in the present economic situation argue that existing subject must have their natural process of development in order to bring them up to a "respectable" academic standard, and to secure well qualified staff.

General Demand in the Labour Market

An investigation carried out by the University a few years ago showed that there was only a limited number of positions in Northern Norway for people with an academic education; only about 1/4 of these positions could be filled by people with the type of qualifications offered at the University. The need for people with economic/administrative and engineering qualifications was emphasized (Solhjell 1977, pp. 108-110). Holt, the then rector of the University, in a newspaper interview stressed that the University had not necessarily chosen the wrong fields of study in relation to the labour market in the North, in view of the fact that certain limitations were originally imposed. Furthermore, the University did offer courses in the fields that nationally attracted the largest numbers of students, such as the arts and pure and applied sciences (Aftenposten 1976). Graduates in these subjects are primarily recruited to the school system, where the need for qualified teachers is considerable in the North. Hanssen (1979, p. 3) argues that the lack of people with an economic/administrative education has caused numerous bankruptcies in small and middle-sized industries in the county of Troms. In view of this it is interesting to note that the plans currently proposed within the University and in discussions with the Ministry of Education, concern law and economics. A committee formed by the Executive Board to consider the teaching of *law* at Tromsø submitted its report in November 1979. The Committee proposes a minor and major course (see Appendix III) concerned with the needs specific to Northern Norway and to other regions outside the big centres. (Innstilling om studietilbud i juss 1979, pp. 5-6.) The course should have a dual role by both being relevant to Northern Norway and acceptable as part of a professional legal education at the faculties of law in Oslo and Bergen. The Committee emphasizes the University's obligation to carry out research and offer subjects relevant to Northern Norway. The legal aspects of the fishing industry and legal questions related to the Sami people are areas of study previously having received only sporadic attention (Innstilling om studietilbud i juss 1979, pp. 8-9).

With respect to *economics* there seems to be some competition within the University between the Institute of Social Sciences and the Institute of Fisheries. The latter already has an economics department specializing in a rather narrow part of economics, i.e. that related to the fisheries. The University has had considerable problems with the recruitment of academic staff in economics, probably because the School of Economics and Business Administration in Bergen has been a real competitor. The Institute of Social Sciences therefore wishes to develop a broader subject, which, it claims, will be attractive to a wider group of economists, and a valuable addition to the course in the social sciences.

Opposed to these subjects, which have received considerable attention within the University, are subjects such as *French* and *dentistry* which, as in the case of dentistry at least, was included in the original goals for the University. These subjects are now less interesting, partly for general economic reasons, and partly because the labour market has changed and reduced their relevance also for Northern Norway. Today the University is unlikely to put these subjects on its budget proposals, despite the fact that French has been mentioned in the Ministry's budget proposals as a possibility from the autumn 1975 (St. prp. nr. 1, 1973-74, p. 133). At the Institute of Languages and Literature the opinion has been voiced that the languages are really incomplete without French. In the present economic situation, however, members would be unwilling to give priority to a new subject. Furthermore, the weakened position of this subject within secondary education is an added factor as it may be demonstrated that sufficient numbers of graduates are educated elsewhere to fill the present need.

Labour market conditions have also been instrumental in keeping *dentistry* away from Tromsø. Dentists graduating from the Universities of Oslo and Bergen are facing fairly severe competition for available jobs. The market at least in Troms and Finnmark seems pretty well covered. Jobs in Northern Norway have been made attractive to dentists by giving time of service there double seniority. The question of a dental education at Tromsø was discussed in the budget proposals from the Ministry of Education for 1976 (St. prp. nr. 1, 1975-76, p. 132). The Ministry of Social Affairs wanted dentistry at Tromsø to be postponed since the shortage of dentists was considerably less than envisaged in 1967. With the present graduation rate at Oslo and Bergen there is no need for a further institute at Tromsø. Thus in the case of individual subjects developments outside the control of the University and the Ministry have been instrumental in changing the original goals.

4.9.3 Research Relevant to the Region

No research committee has been formed to deal with projects of relevance to Northern Norway. As pointed out in section 3.8.4, many research projects at the University are relevant to the region. The interests of individual research workers seem to be more important in this respect than an internal University policy (see also Solhjell 1977, pp. 130-132). The University administration confirms that no principal decision has been taken on the Board concerning, for example, dividing the funds between regionally and non-regionally relevant research. The Board should not be in a position to pass such decisions it is claimed, particularly in view of the fact that regionally relevant research *is* carried out at the University (Y. Løchen, V. Fagernes, University of Tromsø, pers. comm. 1979).

As previously mentioned, the formal contact between the region and the University leaves much to be desired since local representatives feel they have no possibility of influencing matters of policy within the University through their representation in the Senate. One of these representatives deplored the fact that the University was not paying enough attention to, for example, research on dialects and place-names in the North, particularly since important sources of information might be lost through the older generation (W. Lockertsen, Troms County, pers. comm. 1979). At the Institute of Languages and Literature it was confirmed that such research gets no extra funds. In the present economic situation the impression prevailed that *all* knowledge was considered regionally relevant. This seems at least partly to be reflected in the allocation of positions at this Institute. In the autumn 1978 English, for example, had eight scientific positions while Norwegian had seven (Institutt for språk og litteratur 1978, s. 15), despite the fact that Norwegian had more students, is regionally relevant in content and research, and is a main subject throughout the school system.

The University administration, on the other hand, claims that regional considerations have been taken into account in the allocation of new positions among the various subjects. The problem seems to be a question of balance between that which is regionally relevant and subjects that are important in a wider context.

The University receives numerous inquiries from the region related to continuing and adult education, lectures on specific topics, and problems requiring research for their solution. The number of such inquiries and the extent to which they are dealt with, may at present not easily be demonstrated. Members of the University deplore the fact that there is no system or body organized to handle such inquiries effectively. In most cases it is up to individual institutes to incorporate an inquiry into their "daily business", i.e. to decide whether it constitutes, for example, a suitable problem for a thesis or a project relevant for the work carried out at the institute. This is a problem felt not only at Tromsø but also at the other universities as they in many cases would like to take on projects financed by external sources. The Ministry of Education also values a closer cooperation between the universities and society. As yet no system has been developed whereby external funds may be used systematically within the universities. The late plans for the organization of "foundations" to deal with externally financed research projects have been shelved. The problem is partly associated with the universities' reluctance to allow external influence, partly a question of "employer's responsibility". Considerable amounts of external funds would necessitate an increase in the number of staff. Should the funds then fail to materialize, the Ministry of Education (i.e. Ministry of Finance) might as *de facto* employer also be responsible for staff who were filling positions that had not been created through the normal budgetary channels. This is a responsibility which the Ministry under the current work regulations seems reluctant to assume.

V SUMMARY AND CONCLUSIONS

The University of Tromsø was declared open for enrollment in 1972 and has now been in operation for eight years. In this report the establishment and developments of the University have been examined as well as factors and circumstances that have affected these developments.

In the early 1960's the plans for Tromsø were influenced by the general need to increase university facilities. This applied particularly to medicine, which turned out to be a subject of contention between the Universities of Tromsø and Trondheim. Both economic and scientific arguments favoured Trondheim because of its larger hospital and established scientific milieus relevant to medical education. This aspect was important only as long as the extention of educational facilities was seen solely as a question of capacity and not in relation to a particular group of people or region. Once the regional arguments were brought into the debate and the "users" of the university and its services pointed out, Tromsø strengthened its position generally and in relation to Trondheim. Gradually the question of medicine at Tromsø was coupled with a reform of medical education. These reform plans were considered to have a greater chance of success at Tromsø, which would be less hampered by traditions and existing teaching programs than Trondheim. In this context Tromsø's disadvantages were indeed strengthening its candidature (see also Rommetveit 1976). As a result the University of Tromsø was given priority with respect to medicine, which by many people was considered fundamental to the development of the new institution.

Trondheim, however, continued to press for the introduction of medicine and was given clinical medicine in the early 1970's. Its first students were admitted only two years after Tromsø started medical teaching in 1973. With respect to staff Trondheim today is a real competitor to Tromsø.

Economically the University of Tromsø has been given high and sustained priority in the 1970's compared with the other universities. Nevertheless, both the general economic situation and the educational emphasis have been changing. As a result the University's initial freedom to experiment with subjects and courses has been somewhat restricted. Regarding funds the University of Tromsø is now considered more in line with the other three universities, which are competing for scarce resources. The regional redistribution values have shifted ground and have for some years now been centered around the regional colleges (see Rommetveit 1976, p. 154). These offer short-term vocationally oriented education which as alternative to a traditional university education, carries much political support.

A big problem facing Tromsø today is the shortage of students. Few students generally lead to few new scientific positions. Scarce resources create competition among the representatives of the established subjects, which need to be extended and strengthened; they are therefore generally opposed to the introduction of new subjects. A university with few disciplines or specialities within disciplines is less attractive to students. Thus a vicious circle seems to operate.

The low student number is also due to the small proportion of the youth taking the university entrance examination in Northern Norway, where the University recruits the great majority of its students. The development of that part of the secondary school system which prepares for university entrance, has been slower in Northern Norway than in the country generally. In the 1970's the emphasis has been changing also in this part of the educational system towards a more vocationally oriented education. Also in Troms and Finnmark developments have gone in this direction.

The slow accumulation of students is further caused by the fact that a large proportion leaves the University after having taken one or two subjects. Greater flexibility within higher education enabling students to acquire a degree by combining subjects taken at various institutions and at widely different points in time seems partly to account for this pattern of study.

The regional colleges at Alta in Finnmark and Bodø in Nordland are probably competitors with respect to the recruitment of students. Offering shorter and more vocationally oriented courses, as well as some university subjects, these colleges are attractive to students, also because their education may be combined with a university education, as described above.

The goals on which Parliament based its decision in 1968, concerned a small and rather traditional university regarding subjects and research. Tromsø should primarily be a university for Northern Norway both with respect to students and subjects. The principle of innovation and a rather radical departure from the values associated with existing universities, are characteristic aspects of the goals formulated within the University in the period of the Interim Council. This Council was given a high degree of autonomy both by political and administrative authorities. The goal-formulation process within the University was open, and many different actors and groups participated in the discussions. This process resulted in three major goals, which may be formulated as follows:

1) research and teaching at the University of Tromsø should be of particular relevance to Northern Norway;

2) the University should have a decentralized and democratic system of government;

3) the University should try new educational methods, exemplified by an interdisciplinary approach in research and teaching, and new examination procedures and teaching methods.

As this study has shown, the University today is concerned about the needs of the region both in research and in the choice of subjects. This emphasis seems, however, to be the result not of an internal policy but of the interests of individual members of staff. Probably because of the University's decentralized and loosely coupled structure no central committee or unit that promotes active problem-solving for the region, has been organized. The question may well be posed whether the University by relying on the personal commitment of its research workers can hope to continue its present engagement for the region. Can this generation of researchers hope to establish a tradition that will be continued by those who follow them?

The zeal for autonomy and fear of outside influence so characteristic of universities generally, have prevented the University of Tromsø from allowing regional influence in those bodies of government where important decisions are made. On the whole, the problem of being regionally relevant while at the same time extending the range of subjects to include those *normally* offered by a university, is a continuing dilemma for the University of Tromsø.

With 70 per cent of its students from Northern Norway the regional recruitment to the University may be said to be considerable. This is comparable, however, to the regional recruitment also at other universities in Norway. It thus confirms the fact that students tend to seek higher education at their "local" university. There has, for example, been no great influx at Tromsø of students from the South, despite extremely favourable student/teacher ratios at Tromsø compared with the other universities.

It seems clear that a large percentage of the University's graduates seeks employment in the North just after graduation. Not the region generally, but Troms county has, on the whole, benefitted the most in this respect, and in the case of students graduating with a higher degree, the University itself. The great majority of the students leaving the University has been employed in the public sector in teaching or research.

The University government does not function as originally intended. Today the democratic aspect of the governance structure may be said to be weakened because the democratically elected Senate, as the highest organ of government, in practical terms plays a less significant role than envisaged in the early 1970's. As at other universities, the students also at Tromsø are less active today than they were when the system of government was being planned and put into operation.

The degree of interdisciplinarity is less than originally envisaged, although it seems to be thriving and is rather strongly promoted by staff within the social sciences, medicine, and fisheries. The problem of recruiting enough students caused changes to be introduced in the course in social sciences to make it more comparable with courses elsewhere. The tendency for students to move between institutions and acquire a degree by subjects taken at different places of study, was an important reason for the revision of the original course structure and content. As a result it is less interdisciplinary today than in the early 1970's. The School of Medicine, on the other hand, has a stable student body and therefore does not have to be compatible with the systems at the other universities. In fact, it seems clear that the six-year medical course at Tromsø is significantly different from the courses elsewhere.

The fact may not be disregarded that the University of Tromsø has approached the traditional university model, although it has shown a higher degree of interdisciplinarity and democracy than the other universities in Norway. Two factors may explain this. For one thing the original goals were products of a particular period of time. The ideals for the University were those forwarded by the student revolt. These were adopted and integrated because staff and students believed in them, and because they were instrumental in creating academic support and enthusiasm for the new institution. New approaches in government structure, teaching, and research could more easily be implemented in a new institution. This probably attracted both staff and students. Times have changed, however, and the ideals of the late 1960's are no longer prominent trademarks of the University of Tromsø. At the same time the structures of the national university system have in many fields proved to be strong, and traditions difficult to break. Staff are not only members of a particular university, but of a much broader national and international community, which imposes standards in teaching and research. Both staff and students need to identify with a special discipline, and merit is still primarily gained through discipline oriented research. The students have private goals and are under no obligation to adhere to those of their university; they may leave and continue their education elsewhere. It seems clear that greater flexibility in the degree structure in higher education resulting in increased student mobility, has put limitations to the degree of innovation that may be attempted. Although universities may try to protect themselves against external pressures to conform, they seem to have only limited possibilities to resist such pressures.

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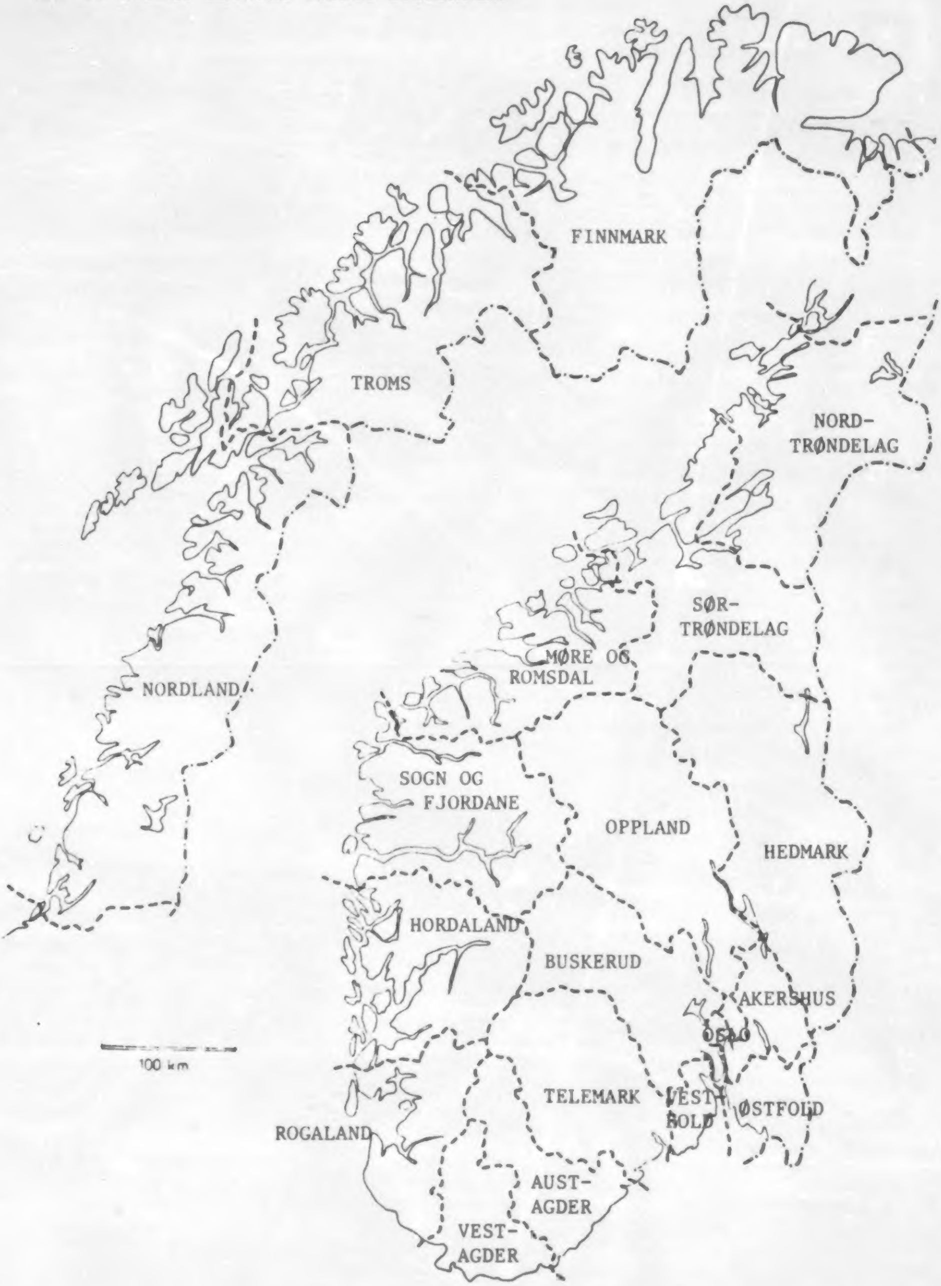
APPENDIX I

COMMITTEES APPOINTED BY THE INTERIM COUNCIL:

Goal-Formulating Committee	24 February 1969
Committee on Dentistry	20 April 1970
Committee on History	23 November 1970
Committee on Fisheries	19 January 1971
Committee on Medical Subjects	21 April 1971
Committee on Mathematics, Physics, Chemistry, Data-Processing	21 April 1971
Committee on Biology/Geology	21 April 1971
Committee on Languages	21 April 1971
Committee on Social Sciences	21 April 1971
Committee on Philosophy	21 April 1971

APPENDIX II

MAP OF NORWAY SHOWING COUNTY BOUNDARIES

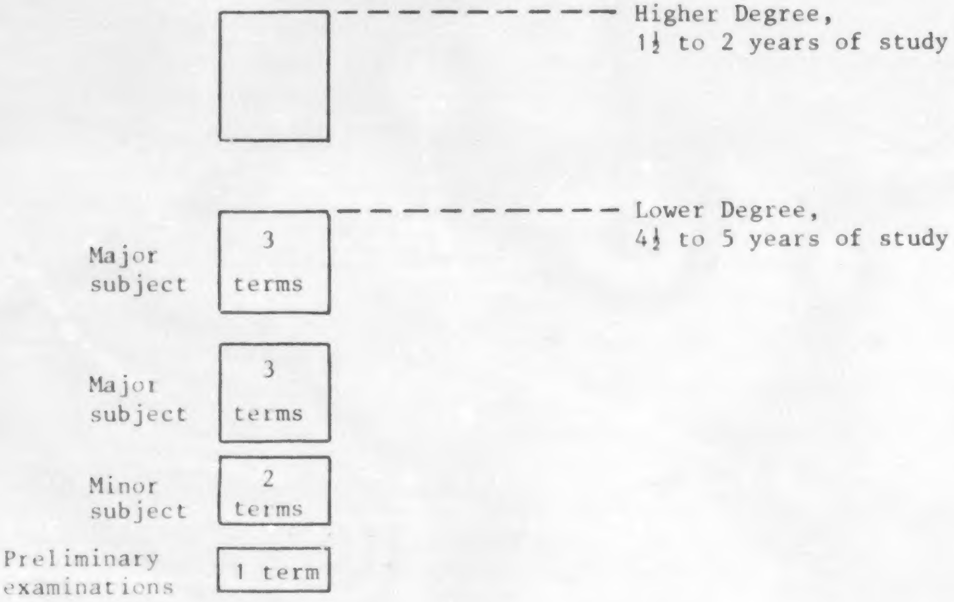

FINNMARK
TROMS
NORD-
TRØNDELAG
SØR-
TRØNDELAG
MØRE OG
ROMSDAL
NORDLAND
SOGN OG
FJORDANE
OPPLAND
HEDMARK
HORDALAND
BUSKERUD
AKERSHUS
OSLO
TELEMARK
VEST-
FOLD
ØSTFOLD
ROGALAND
AUST-
AGDER
VEST-
AGDER
100 km

APPENDIX III

THE NORWEGIAN UNIVERSITY DEGREE SYSTEM

For the arts, social sciences, and pure and applied sciences a lower degree consists of examinations in three different subjects, two major and one minor subject. A major subject is usually stipulated to take one and a half years (three terms) of study, a minor one normally one year (two terms). A higher degree is awarded on the basis of an additional one and a half to two years' study of one of the major subjects taken for the lower degree. A higher degree course usually involves a thesis and written and oral examinations.

The system may graphically be presented as follows:


Higher Degree,
1½ to 2 years of study
Lower Degree,
4½ to 5 years of study
Major subject
3 terms
Major subject
3 terms
Minor subject
2 terms
Preliminary examinations
1 term

The sequence of the subjects taken for a lower degree is immaterial. However, within the arts and social sciences students normally take only one subject at a time. Within the pure and applied sciences a point system is used for the various courses within individual subjects; students frequently take courses from different subjects simultaneously. Smaller courses within these sciences may also be taken together with subjects from the arts or social sciences. A minor subject may be extended by an additional term of study and additional examinations to become a major.

A *lower degree* is awarded in arts, social sciences, and pure and applied science respectively, depending on the number of subjects belonging to the respective faculties. Thus a candidate with two subjects from the Faculty of Arts is awarded a degree in Arts. Subjects and professional examinations taken outside the universities, e.g., at the regional colleges, are in many cases considered equivalent to the subjects studied for a lower degree at the university. Thus students may combine subjects from different faculties and from different university faculties and non-university institutions. They are accordingly awarded what is called an inter-faculty lower degree. Thus the system is flexible, also in the sense that students may step in and out of the higher educational system and combine examinations taken at widely different points in time for a final degree.

A *higher degree* is awarded in arts, social sciences, or pure and applied sciences, depending on the faculty to which the higher degree subject belongs.